IN THE MATTER OF THE INVESTIGATION INTO RATES FOR UNBUNDLED NETWORK ELEMENTS PURSUANT TO THE TELECOMMUNICATIONS ACT OF 1996.	*	BEFORE THE PUBLIC SERVICE COMMISSION OF MARYLAND
	*	CASE NO. 8879

PUBLIC VERSION

ORDER NO. 78552

Before: CATHERINE I. RILEY, Chairman
J. JOSEPH CURRAN, III, Commissioner
GAIL C. MCDONALD, Commissioner
HAROLD D. WILLIAMS, Commissioner

Issued: June 30, 2003

Appearances:

David A. Hill, Catherine Kane Ronis, Lynn R. Charyton, Sarnis C. Jain, Christopher S. Huther, and Megan H. Troy, for Verizon Maryland, Inc.

Matthew W. Nayden, Mark A. Keffer, G. Ridgely Loux, David M. Levy, and Alan C. Geolot, for AT&T Communications, Inc.

Marc J. Williams and Carville B. Collins, for WorldCom, Inc.

Robin F. Cohn, Harisha J. Bastiampillai and Eric J. Branfman, for COVAD Communications Company, Network Plus, Inc., and Starpower Communications, LLC.

Craig D. Dingwall and Karen R. Sistrunk, for Sprint Communications Co., L.P.

Peter Q. Nyce, Jr., for the Department of Defense and all other Federal Executive Agencies.

John F. Conwell, for the Cable TV Association of Maryland, the District of Columbia and Delaware.

Brad E. Mutschelknaus, Edward A. Yorkgitis, and Steven A. Augustine, for American Communications Services of Maryland, Inc.

Katheryn L. Thomas for Advanced Telecom Group, Inc.

Christopher W. Savage, Erik J. Cecil and Kevin W. Brown, for Quantum Telecommunications, Inc.

Clint Wiley, for New Frontiers Telecommunications, Inc.

Theresa V. Czarski, for the Maryland Office of People's Counsel.

M. Catherine Dowling, Sarah R. Lazarus, Janice Flynn, and Lloyd J. Spivak, for the Staff of the Public Service Commission of Maryland.

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Table of Acronyms

ABS	Alternative Billing Service
ACF	Annual Cost Factor
ADM	Add-Drop Multiplexers
ADSL	Asymmetrical Digital Subscriber Line
ASRs	Access Service Requests
CAPM	Capital Asset Pricing Model
CBO	Customer Billing Organization
CLEC	Competitive Local Exchange Carrier
CMDS	Centralized Message Data System
CNAM	Caller Name Delivery
CSA	Carrier Serving Area
DA	Distribution Area
DCF	Discounted Cash Flow
DLC	Digital Loop Carrier
DSL	Digital Subscriber Loop
DUF	Daily Usage File
EF&I	Engineer, Furnish & Install [factor]
EMR	Exchange Message Record
FDI	Feeder Distribution Interface
FLC	Forward-Looking-to-Current [factor]
FPC	Fraud Prevention Center
GAAP	Generally Accepted Accounting Principles
HCPM	Hybrid Cost Proxy Model
HFPL	High Frequency Portion of the Loop

IDLC	Integrated Digital Loop Carrier
IDLC	Integrated Digital Loop Carrier
ILEC	Incumbent Local Exchange Carrier
IXC	Interexchange Carrier
LDS	Local Digital Switch
LFACS	Loop Facility Assignment Control System
MLAC	Mechanized Loop Assignment Center
MOU	Minutes of Use
MSM	Modified Synthesis Model
MTAU	Metallic Test Access Unit
NDM	Network Data Mover
NGDLC	Next Generation Digital Loop Carrier
NID	Network Interface Device
NRC	Non-Recurring Cost
OPC	Maryland Office of People’s Council
OSS	Operations Support Systems
POTS	Plain Old Telephone Service
RCCC	Regional CLEC Coordination Center
RCMAC	Recent Change Memory Administration Center
RT	Remote Terminal
RTU	Right-to-Use [factor]
SAC	Serving Area Concept
SAI	Serving Area Interface
SCIS	Switching Cost Information System
Staff	Staff of the Public Service Commission of Maryland
TELRIC	Total Element Long-Run Incremental Cost

TISOC	Telecom Industry Services Operations Center
TSI	Time Slot Interchanger
UDLC	Universal Digital Loop Carrier
UNE	Unbundled Network Element
VRUC	Vintage Retirement Unit Cost
VSC	Verizon Services Corporation
WTS	Wideband Testing System

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I. INTRODUCTION

Case No. 8879 began with Commission Order No. 76694, issued on January 19, 2001. In Order No. 76694 the Commission closed Case No. 8731[1], the purpose of which had been to consider interconnection agreements and arbitrate unresolved issues pursuant to the provisions of Section 252 of the Telecommunications Act of 1996 ("the Act" or "the 1996 Act".)[2] The Commission, however, adopted the recommendation of the Office of People's Counsel ("OPC" or "People's Counsel") and WorldCom, Inc. ("WorldCom") to re-examine unbundled network element ("UNE") rates in Maryland. The Commission thus established Case No. 8879 to begin where Case No. 8731, Phase II ended. Accordingly, in Order No. 76694, the Commission instructed the parties to refresh the cost studies,

[1] *Re Agreements and Arbitration of Unresolved Issues Arising Under Section 252 of the Telecommunications Act of 1996*, Order No. 76694, 92 Md. PSC 8 (1998).

[2] 47 U.S.C. §§ 151 *et seq.*, Pub.L. 104-104, 110 Stat. 153 (1996).

models, and rates relied upon in Case Nos. 8731 Phase II,[3] 8786,[4] and 8842, Phase II[5] and address the effects of various judicial and regulatory orders and decisions on rates for unbundled network elements.

A pre-hearing conference in Case No. 8879 was held on February 15, 2001. After several modifications to the procedural schedule, direct testimony was filed in May 2001. The parties filed rebuttal testimony in September and October 2001. Verizon Maryland, Inc. ("Verizon"), AT&T Communications of Maryland, Inc. ("AT&T"), the U.S. Department of Defense ("DOD"), OPC, and the Staff of the Public Service Commission of Maryland ("Staff") also filed surrebuttal testimony in October 2001, and on November 19, 2001, Staff filed rejoinder testimony. Hearings were held before the Commission on December 3, 4, 5, 6, 7 and 11, 2001. Initial briefs were filed on January 18, 2002, and reply briefs on February 8, 2002.

Verizon filed the direct, rebuttal, and surrebuttal testimony of Louis D. Minion, Marsha S. Prosini, Glenn Deuchler, Bruce F. Meacham, Allen E. Sovereign, David Garfield, Dr. William E. Taylor and Dr. James H. Vander Weide.[6] Verizon filed the

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[3] *Re Agreements and Arbitration of Unresolved Issues Arising Under Section 252 of the Telecommunications Act of 1996*, Case No. 8731, Phase II. *See*, Order No. 74365, 89 Md. 152 (1998).

[4] *In the Matter of the Investigation of Nonrecurring Charges for Telecommunications Interconnection Services, Case No. 8786.*

[5] *Rhythms Links, Inc. v. Bell Atlantic – Maryland, Inc.*, Case No. 8842 Phase II. *See*, Order No. 76852, 92 Md. PSC 118 (2001).

[6] The pre-filed testimony of Verizon Witness Deuchler was adopted by Joseph Gansert during the December 3, 2001, hearing. Tr. 74-75.

rebuttal testimony of Carol Peduto II, John White, Francis J. Murphy and Timothy Tardiff. Verizon also submitted the surrebuttal testimony of David Garfield.

AT&T and WorldCom ("AT&T/WorldCom"), submitted the testimony of John Hirshleifer, Richard Lee, Joseph Riolo, Brian Pitkin, Terry Murray, Richard Walsh, Michael R. Baronowski, and Catherine Pitts. DOD submitted the rebuttal testimony of Harry Gildea. People's Counsel filed the testimony of Scott C. Lundquist. Staff submitted the testimony of Jason A. Cross, Warren R. Fischer, Randy Allen, Carlos Candelario, Steve Molnar, Gunter Elert, and Timothy Gates.

II. GENERAL POSITIONS OF THE PARTIES

The purpose of Case No. 8879 is to establish permanent rates for unbundled network elements in accordance with the 1996 Act. The 1996 Act envisioned that competitive local exchange companies (“CLECs”) would enter the market through one or a combination of three possible means: the construction and interconnection of “new” networks, commonly referred to as facilities-based competition; the lease and use of unbundled, physically separated elements of the incumbent's network, referred to as unbundled network elements (“UNEs”); or the purchase and resale of the incumbent’s existing services.

Section 251(c)(3) of the 1996 Act requires ILECs to provide unbundled network elements to requesting carriers on “rates, terms, and conditions that are just, reasonable and

nondiscriminatory . . .” Section 252(d) of the 1996 Act identifies broad pricing standards pertaining to UNEs and other charges.

Unbundling allows CLECs to know the specific wholesale cost of each individual function they may purchase from Verizon in order to provide telecommunications services to their own retail customers. The FCC has identified the following UNEs[7]: the local loop and subloop; the network interface device (“NID”); switching; interoffice transmission facilities; signaling networks and call-related databases; operator services and directory assistance; operations support systems (“OSS”); and the high frequency portion of the loop (“HFPL”). The cost of capital and various other expense factors affect the price charged for UNEs. As such, the parties have opposing views on these effects, and therefore dispute the appropriate prices that Verizon should charge for UNEs.

The sale of unbundled network elements is required to enhance the development of local exchange competition. In its interpretation of the 1996 Act, the FCC set forth the specific UNEs and allowed the ILEC to recover costs plus some reasonable profit on the sale of these UNEs. The FCC has established that costs must be determined using a forward-looking cost methodology called Total Element Long-Run Incremental Cost ("TELRIC").[8] Prices that are charged for UNEs fall into "recurring" and "non-recurring" categories. Verizon and AT&T/WorldCom each filed separate cost

[7] 47 C.F.R. 51.319.

[8] *See*, *Verizon Communications, Inc. v. FCC,* 535 U.S. 467, 122 S.Ct. 1646 (2002). The Supreme Court has upheld the FCC regulations requiring that UNEs be priced in accordance with TELRIC.

models in this proceeding. Verizon, AT&T/WorldCom, People's Counsel, and Staff each propose different UNE rates for the Commission to consider. People's Counsel and Staff make recommendations based upon Verizon's recurring and non-recurring cost models. AT&T/WorldCom, while critiquing Verizon's cost models, makes its recommendations based upon its own models. The majority of the recommended prices reflect a wide range of values; there is variation even among those recommendations based upon the same models. These price variations are the result of the parties' use of varied inputs.

A. Verizon

Verizon claims that its recurring cost model sets the UNE rates it charges competitors in a manner that recovers the costs of a forward-looking telecommunications network, within the constraints of the FCC's mandated TELRIC protocol. Verizon's understanding of TELRIC requires that "costs be assessed as if the market were fully competitive." Verizon In. Br., Exec. Sum. at iv. Verizon claims that a forward-looking network will incorporate and build on elements of its current network, such as embedded wire centers. Thus, Verizon argues that its existing network configuration and current retail service offerings necessarily shape its network costs and, therefore, UNE prices.

Verizon uses a tops-down methodology to adjust its switching and port expenses downward, arguing that a tops-down approach reflects efficiencies and cost reductions expected in the

up-to-date technological environment of a forward-looking network. This tops-down methodology is the opposite of the bottoms-up approach Verizon used in Case No. 8731. Verizon applies various conversion factors in its models in an effort to ensure that unjustified recoveries do not occur. On other pricing issues, *e.g.*, loop costs, switching, and access to OSS, Verizon claims that it has attempted to base its costs on a realistic network suitable for Maryland, and that its recommendations on these issues are also TELRIC compliant. For example, in developing the proposed price for the switching UNE, Verizon "relie[s] on real data and its experience in actually providing service to Maryland customers." *Id.*

Verizon's capital structure and cost of capital also influence the prices/rates the Company charges for UNEs. In this case, Verizon bases its cost of capital and capital structure on those of a group of competitive, non-utility businesses. Using competitive firms as the benchmark for its own capitalization is consistent with Verizon's view that it is a competitive company comparable to most unregulated private companies.

In sum, Verizon maintains it has developed UNE prices based on a melding of its practical experience with the TELRIC requirement that UNE costs be based on a forward-looking, competitive network. Based on its analyses, Verizon recommends a

statewide loop cost of $21.03 per line, compared to $14.50 set in Case No. 8731, Phase II.[9]

B. AT&T/WorldCom

AT&T and WorldCom intervened separately in Case No. 8879, but jointly sponsored the Modified Synthesis Cost Model ("Synthesis Model") and a Non-Recurring Cost Model ("NRCM"). AT&T and WorldCom jointly sponsored the testimony presented in this proceeding.[10] Additionally, AT&T and WorldCom filed joint briefs, although WorldCom did file a separate brief on switching issues. AT&T/WorldCom claims the Synthesis Model is TELRIC-compliant because, among other things, it "relies on engineering principles consistent with a forward-looking network ... [and] on precise demographic data to determine the location of actual customers throughout Verizon Maryland's service area." AT&T/WorldCom In. Br. at 2.

AT&T/WorldCom maintains that TELRIC "should be measured based on the use of the most efficient communications technology currently available and the lowest cost network configuration, given the existing location of the ILEC's wire centers." AT&T/WorldCom In. Br. at 4, quoting 47 C.F.R. §51.505(b)(1). AT&T/WorldCom insists that its own cost studies comply with TELRIC

[9] Order No. 74365, 89 Md. PSC 152 (1998). The current effective statewide loop rate was reduced to $12.00 by Verizon during its state §271 proceeding.

[10] Covad Communications Company, Inc., Network Plus, Inc., and Starpower Communications, LLC. joined in the sponsorship of the testimony supporting the AT&T/WorldCom Recurring and Non-Recurring Cost Models. The citation "AT&T/WorldCom" will include other parties when appropriate.

as developed by the FCC, and that its Synthesis Model properly estimates the costs that an efficient supplier would incur, over the long run, to supply the entire set of network elements currently provided less efficiently by Verizon.

In addition, AT&T/WorldCom asserts that Verizon's resulting UNE prices are faulty since Verizon's version of TELRIC is designed merely to ensure that Verizon recovers the embedded cost of its network. Further, AT&T/WorldCom asserts that Verizon has wrongfully designed its modeled network in a manner already rejected by the FCC. Verizon has taken its existing network as a given, AT&T/WorldCom avers, and then includes the changes and additions it believes are necessary in order to comply with TELRIC. AT&T/WorldCom claims that such a procedure results in a cost model, and a network, that is not even minimally forward-looking.

All of AT&T/WorldCom's detailed objections to Verizon's costs, rate-of-return, accounting lives, cost factors, and network design, among others, arise from AT&T/WorldCom's conviction that Verizon offers an embedded or partially embedded cost model rather than a forward-looking model. AT&T/WorldCom's fundamental objection to Verizon's entire presentation, then, is that Verizon's cost model and network are based on current, or even past, and at a minimum, not forward-looking conditions. AT&T/WorldCom argues that because of its failure to present only forward-looking costs, Verizon's cost study violates TELRIC requirements, and thus must be rejected by this Commission. Based on the results of its Synthesis Model, AT&T/WorldCom proposes a $6.68 average loop cost.

C. COVAD Communications Company

COVAD focuses on certain very specific concerns, rather than on the broad TELRIC and network design issues discussed by Verizon and AT&T/WorldCom. As noted above, COVAD joined in the sponsorship of the AT&T/WorldCom Recurring and NRC Panel rebuttal and surrebuttal testimony. COVAD, which separately filed only a reply brief, focuses on the specific Verizon charges for loop conditioning, loop qualification, wideband testing, cooperative testing, and splitter installation equipment and support. COVAD assumes, for example, that since Verizon's charges should arise from a "forward-looking environment," Verizon's network should contain fiber loops, rather than copper loops beyond the 18,000 foot limit. COVAD also stresses that when loop conditioning occurs, multiple loops should be conditioned at one time, since Verizon has spare loop capacity sufficient to enable it to condition multiple loops at the same time. In general, COVAD challenges Verizon's efficiency and overall cost recovery proposals as too generous for Verizon.

D. Department of Defense and Other Federal Agencies

DOD argues that Verizon's cost studies impermissibly depend on historical data and current network design, rather than on a forward-looking analysis. DOD supports use of AT&T/WorldCom's Synthesis Model, concluding that it better satisfies the requirements of TELRIC than does Verizon's model. Use of embedded costs by Verizon is one of the reasons DOD contends that many of

Verizon's proposed costs are too high. Other reasons for overly high costs, according to DOD, include Verizon's low utilization factors and assumptions. In addition, DOD argues that Verizon fails to take into account both the savings from Verizon's merger with GTE and the costs Verizon avoids by providing wholesale services to other carriers instead of retail services to the customers those carriers serve.

E. Office of People's Counsel

People's Counsel bases its recommendations upon Verizon's cost models. However, People's Counsel does challenge Verizon's application of cost factors to expenses, as well as Verizon's calculation of switching, port, and loop investments. People's Counsel maintains that Verizon inappropriately calculates its expense factors by, among other things, employing a "forward-looking conversion" factor to increase certain costs by including product advertising and retail-related costs in its marketing cost factor.

Further, People's Counsel maintains that Verizon's recurring cost model wrongly includes embedded cable costs in its loop database. According to People's Counsel, the Company fails to support its switching and port investments by using the "tops-down" costing methodology, failing to apply forward-looking vendor discounts, and using an understated "growth" switching discount.

Finally, People's Counsel argues that all parties in Case No. 8879 propound economic theories that merely support their

own economic interests. People's Counsel urges the Commission to base its decision on Maryland-specific conditions, rather than on theoretical analyses based on self-interest. In addition, People's Counsel promotes the concept of sharing of loop costs in order to prevent residential customers from subsidizing other customers' use of the loop for DSL or advanced services.

F. Staff

The Commission Staff does not present its own separate cost models. Rather, in making its recommendations, Staff adjusts the inputs used by Verizon to reflect a forward-looking network configuration using the most efficient technology available. *See,* Staff In. Br. at 18. Staff, in fact, concludes that Verizon's cost studies violate Commission requirements in several ways, such as: lack of Commission-required Maryland-specific inputs; failure to identify individual model components; and lack of documentation. In addition, Staff cites the difficulty in running Verizon's cost models as a violation of the Commission Order establishing this proceeding, which requires that Verizon's cost models be easily usable.

Staff also claims that Verizon's standard rates do not comply with TELRIC because those rates recover the cost of embedded plant with all of its existing inefficiencies, and because those rates also overstate forward-looking economic costs. In addition to this overriding objection, Staff also opposes Verizon's proposed capital structure and costs of equity and debt. Further, Staff

rejects Verizon's non-recurring cost ("NRC") methodology in favor of Staff's NRC cost rates, which Staff claims are close to those of other states.

The Commission Staff also argues that loops are a bottleneck element of Verizon's system. Staff In. Br. at 50. As such, loops are an essential element for those who must interconnect with Verizon. Staff claims that adopting Verizon's $21.03 standard loop rate as proposed here would sound a "death knell" for competitive flat rate service. Staff also points out that Verizon's proposal in Case No. 8879 results in a charge for loops almost 50 percent higher than the charge resulting from Verizon's "compliance run," made to comply with the results of Case No. 8842. The final result of Staff's UNE pricing analysis is a recommended statewide average loop cost of $6.02.[11]

III. PRELIMINARY ISSUES

A. TELRIC Methodology

All parties agree that the TELRIC methodology must be the standard for setting UNE rates in Case No. 8879. TELRIC requires that UNE prices be based upon the cost of providing a service in a forward-looking network. The parties disagree, however, on the meaning of "forward-looking." Essentially, Verizon establishes its TELRIC-compliant prices for UNEs based upon forward-looking adjustments it makes to its existing network and

[11] Staff also provides the results of a compliance model run, which employs the numbers and assumptions contained in Commission Case Nos. 8731 and 8842.

its existing costs. However, other parties support the concept of developing TELRIC-compliant prices by utilizing the most up-to-date equipment and facilities.

The Supreme Court has recently upheld the FCC's use of TELRIC as a methodology for determining UNE rates in accordance with the Telecommunications Act of 1996. In *Verizon Communications, Inc. v. FCC*, 535 U.S. 467, 122 S.Ct. 1646 (2002), the Court rejected challenges to the FCC's TELRIC methodology. *Id.* at 1677. The Court held that "the FCC was reasonable to prefer TELRIC over alternative fixed-cost schemes that preserve home-field advantages for the incumbent." *Id.* at 1673. The Court minimized any notion that this Commission should set rates based on historical cost data provided by incumbents. *Id.* at 1668 n. 20. The Commission, therefore, consistent with the Supreme Court's holding in *Verizon Communications*, adopts TELRIC as the appropriate methodology upon which to base UNE prices.

B. Depreciation Rates

In Case No. 8731, Phase II, the Commission adopted FCC-approved depreciation lives for Verizon, then known as Bell Atlantic-Maryland, Inc. All parties except Verizon favored that result. In the present case, Verizon again asks the Commission to reject the use of FCC depreciation lives for TELRIC purposes. Verizon instead proposes using the depreciation lives it employs for financial reporting purposes under Generally Accepted Accounting Principles ("GAAP"). Verizon believes that GAAP lives

better account for the anticipated obsolescence of Verizon's network. Verizon claims that GAAP depreciation lives are the most appropriate estimate of depreciation lives because they are updated annually.

Other parties favor use of FCC depreciation lives. For example, AT&T/WorldCom points out that the FCC rates are specifically designed to be used by state commissions, and that, in fact, similar rates were accepted by this Commission in Case No. 8731. In contrast, the rates that Verizon wants to use, according to AT&T/WorldCom, are not economic lives, are based on other carriers' experience, and do not reflect the rate of recent retirements. AT&T/WorldCom In. Br. at 32-37.

The Commission does not accept Verizon's proposal. Instead the Commission approves use of FCC-sanctioned asset lives. Since no party has performed a full depreciation study in this case, GAAP depreciation lives lack a credible foundation for UNE costs. Instead, GAAP depreciation lives would be difficult, if not impossible, for this Commission to review in any systematic fashion. GAAP depreciation lives are adjusted each year as financial statements are prepared, and the Commission declines to approve any depreciation rate that is subject to such a significant degree of uncertainty. Further, since a telecommunications regulatory body prepares the FCC-prescribed lives, they are assumed to be stable and reliable. The record herein provides no reason to depart from previous Commission decisions, including that made in Case No. 8731.

A selection of the most recent FCC-approved depreciation ranges (1999) is set out in the chart below. Certain of the FCC's 1995 approved lives are also shown below and represent a single choice. For 1999, a range of depreciation lives is provided. While the Commission rejects GAAP depreciation lives as inappropriate, the Commission is similarly convinced that the high range of the FCC's depreciation lives is inappropriate in a forward-looking environment. As such, some faster depreciation should be allowed. Therefore, the Commission believes that the low point is the most suitable for Verizon in order to establish TELRIC-compliant UNE prices. Accordingly, the Commission sets depreciation lives for Verizon at the low point of the 1999 ranges on a going-forward basis.

	1995 FCC Approved Lives	**1999 FCC Approved Ranges**
Digital Switching	16.0	12 – 18
Digital Circuit Equipment	11.0	11 – 13
Aerial Cable Metallic	20.0	20 – 26
Underground Cable Metallic	25.0	25 – 30
Buried Cable Metallic	20.0	20 – 26
Fiber Cable	N/A	25 – 30

Staff Exh. 64 at 5.

C. Cost Models

Verizon and AT&T/WorldCom each filed fully developed cost models to produce rates for non-recurring and recurring UNEs. The models each party proposes are comprised of various components

and interactive modules. Verizon claims that its cost models are "designed to comply with the most economically appropriate interpretation of TELRIC." Verizon In. Br. at 6. Verizon says its models combines new or forward-looking technology with existing technology to achieve "the most efficient possible operation of its network." *Id.* Verizon claims that AT&T/WorldCom's cost models present an extreme version of TELRIC and ignore rational past investments as well as reasonable future investments, all for the purpose of developing a hypothetical forward-looking network.

AT&T/WorldCom, on the other hand, maintains that its cost models are the only TELRIC-compliant models in this case. AT&T/WorldCom claims that its recurring cost models rely on cost inputs adopted by the FCC and are based on the engineering principles underlying a forward-looking network, as well as on precise demographic data. Even AT&T/WorldCom admits, however, that "selection of a model . . . is secondary to selection of inputs." AT&T/WorldCom In. Br. at 2.

Commission Staff analyzes both Verizon's and AT&T/WorldCom's cost models. Staff notes that Verizon uses annual cost factors ("ACFs") to adjust engineering, installation, power, and land and building costs to levels Verizon deems appropriate. Staff criticizes Verizon's development of switching costs because Verizon uses the "tops-down" methodology rather than the previously utilized "bottoms-up" approach applied in Case No. 8731. Verizon's non-recurring cost model, according to Staff, identifies all of the activities necessary to complete the fundamental "non-recurring"

task of satisfying a CLEC's request for UNEs. However, Staff is critical of both the fact that Verizon did not perform a time and motion study to support its non-recurring cost recommendations as required in Case No. 8842, as well as the fact that Verizon failed to fully utilize the Commission's ordered inputs. After evaluating both AT&T/WorldCom's and Verizon's models, Staff decided to use Verizon's compliance cost model run as a basis for its recommendations, but only after changing inputs as it deemed necessary. Staff's approach is consistent with AT&T/WorldCom's conclusion that inputs matter more than models. Similarly, OPC witness Lundquist also supports the Verizon model.

The Commission carefully considered both models and rejects the AT&T/WorldCom Synthesis Model for recurring costs. The Commission finds the Synthesis Model unreliable based upon the ongoing difficulties noted throughout this proceeding, during which the output of the Synthesis Model was constantly being revised. *See*, Tr. at 1173 – 1450. Further, the Synthesis Model appears to be more appropriate in the Universal Service context for which the FCC approved it.

Throughout its deliberations, the Commission repeatedly confronted the fact that Verizon's recurring cost model remains inordinately complex and difficult to use. This fact resulted in lengthy delays and enormous frustration for those attempting to vary model inputs. The inherent difficulty of using Verizon's model contradicts the Commission's Order that Staff and other parties should be able to run various input scenarios with ease,

and seriously constrained the Commission's decision-making process.[12]

Notwithstanding its numerous flaws, however, the Commission agrees with Staff and OPC that the Verizon cost models are the more thorough and complete models of those available. However, the Commission concludes that adjustments to Verizon's inputs must be made. This Order makes several changes to the inputs of Verizon's standard model run dated December 10, 2001. In instances in which no change was made to an input, Verizon's input is accepted.

The Commission again reiterates that if a party wants the Commission to rely on the outputs generated by its models, then the models cannot be so complex as to prove impenetrable without that party's ongoing assistance. The Commission therefore directs that, in any future cases in which a party to this proceeding provides cost models for the Commission's consideration, the party shall design the models so that Staff and other parties may use them with relative ease.

[12] In Case No. 8842, the Commission directed that future cost models presented by Verizon should: be based upon Maryland-specific information, where feasible; contain detailed testimony; provide an explicit, detailed description of how proposed rates were developed; identify the individual components of the rate and the source of those components; be supplemented by adequate testimony and documentation necessary to support application of non-Maryland specific experience, information or data; be computer-based, such that the model can be run by the Commission or its Staff; and be auditable relative to double recovery, subsidies and errors.

IV. COST OF CAPITAL

A. Cost of Common Equity

The parties' recommendations for Verizon's cost of capital and capital structure are set out in the chart below:

Summary of Positions[13]

Company	Witness	Cost of Debt	Cost of Equity	Capital Structure Debt	Capital Structure Equity	WACC
VMD	Vander Weide	7.55	14.75	25.0	75.0	12.95
AT&T	Hirshleifer	7.86	10.24-DCF	49	51 (book)	9.17
			10.60-CAPM	20	80 (market)	9.91
			10.42	34.5	65.5 (average)	9.54
DOD/FEA	Gildea	N/A	N/A	40	60	11.87
Staff	Elert	6.95	10.75	40	60	9.23

1. Verizon

Verizon's cost of common equity is the most contested of the cost of capital issues. Determining a company's cost of common equity is actually an attempt to estimate what financial return future investors will seek from a company, based on their perception of the risk of the investment. The larger the risk, the greater the return needed to compensate investors for that risk. Risk includes risk from competition, risk from fluctuation in stock and bond prices, and risk arising from regulatory decisions. Methodologies or formulas such as Discounted Cash Flow ("DCF"), the

[13] OPC did not present cost of capital testimony. DOD/FEA witness Gildea did not perform a complete cost of capital analysis. Instead, Gildea altered Dr. Vander Weide's analysis by changing the capital structure ratio to what he considered more appropriate values.

Capital Asset Pricing Model (“CAPM”), and Risk Premium Analysis are all means of determining the appropriate level of the return firms must pay investors to induce them to purchase common equity.

The traditional DCF methodology equates a company's appropriate cost of common equity to the current dividend yield plus the future growth of dividends. Verizon's witness Vander Weide performs a one-stage DCF analysis. Based on his assumption that the market for local exchange service is competitive, witness Vander Weide selects companies listed in the Standard and Poor's ("S & P") 500 Index on the basis of his assessment of risk comparability. He chooses only companies that reported their stock price, paid a dividend, and had a positive growth rate. Verizon does not include in its final calculation the 25 percent of companies with the highest and the 25 percent with the lowest DCF results. Thus, Verizon's DCF recommendation is based on the middle range of S & P 500 companies. Witness Vander Weide calculates that the weighted average DCF result for the middle DCF quartiles is 14.75 percent. He also performs a DCF analysis on four telecommunications companies: ALLTEL, Bell South, SBC Communications, and Verizon Communications. The result of that analysis is a weighted cost of equity of 15.52 percent. Verizon, however, asks this Commission to adopt the 14.75 percent cost of common equity obtained from its DCF analysis of S & P 500 stocks, rather than an analysis based on telecommunications companies. Verizon's DCF analyses are single phase; that is, they assume the same rate of return indefinitely into the future.

2. AT&T/WorldCom

AT&T/WorldCom's witness Hirshleifer performs a three-stage DCF analysis. Three-stage analyses permit assumption of different future growth rates, which a one-stage analysis does not permit. AT&T/WorldCom's analysis postulates a stage one DCF lasting five years, a stage two lasting 15 years, and a stage three for the period after 20 years. Each stage has its own forecasted dividend growth rate based on Value Line predictions. AT&T/WorldCom's witness Hirshleifer's analysis uses a long-run growth rate for the economy for the 2000 through 2005 period that is based on data from Wharton Econometric Forecasting Associates, while long-term inflation rates are based on the data of Ibbotson Associates.

AT&T/WorldCom's witness Hirshleifer performs his three-stage DCF analysis on five large telecommunications holding companies. Witness Hirshleifer calculates the weighted average cost of equity for Verizon by first excluding Verizon from the calculation and weighting that result at 75 percent of the total, and then weighting Verizon's stand-alone rate at 25 percent. Finally, witness Hirshleifer adds the two results to achieve a 10.42 percent weighted cost of equity.

AT&T/WorldCom checks its DCF analysis against an analysis based on the CAPM. CAPM is one method of deriving the risk premium, which is the premium above the return on treasury bonds that is required to induce investors to buy specific issues of common stock. The standard CAPM formula requires determining

the "beta," or risk level, of the subject company, and multiplying this times the overall market risk premium.

Based on all of its analyses, AT&T/WorldCom recommends an overall 9.58 percent cost of capital, with a 10.42 percent cost of equity, a 7.86 percent cost of debt, and a 34.5 to 65.5 percent debt/equity ratio.

3. Staff

Staff's cost of capital witness Elert performs four separate discounted cash flow analyses to make his recommendation for Verizon's appropriate return on common equity. Witness Elert first employs the traditional DCF method. Using average dividend yields and growth rates for six telecommunications holding companies, witness Elert calculates Verizon's cost of equity at 6.32 percent. Witness Elert's three other DCF calculations expand the inquiry beyond dividends and growth. His first alternative method employs average stock prices, cash flows, and four-year forecasted stock prices to obtain an 11.62 percent Verizon cost of equity. The second alternative calculates required return based on the growth of several components of cash flow, including revenue per share, cash flow per share, and earnings and dividends per share. That method results in an average cost of equity of 10.86 percent. Witness Elert then varies the companies studied, performing a DCF analysis of the risks of the largely unregulated companies represented by the S & P's 500 industrial stocks. Rather than eliminate over half of the S & P 500 stocks, as Verizon’s witness does, Staff's witness believes the entire index is more

appropriate in his analysis, arriving at a forward-looking cost of equity capital of 6.97 percent for the S & P 500 equities.

In addition to four DCF analyses, Staff witness Elert also performs risk premium and capital asset pricing model analyses. The purpose of the risk premium method is to determine the excess return over safe investments that investors require to persuade them to purchase riskier securities. Witness Elert's risk premium analysis therefore has two components: a "risk free" component and an "expected risk" element. For his "safe" investment component, witness Elert chooses the forecasted cost of a bond issued by an "AAA" rated corporate entity. For the expected risk component, he chooses a value of four percent. The four-percent value reflects the risk premium that current economic literature indicates equity holders require over and above a safe corporate bond rate in order to buy a certain stock. Witness Elert's analysis shows that Verizon's cost of equity capital, using the risk premium method, should be 10.73 percent.

The CAPM has components similar to the basic risk premium model. CAPM is, however, a more complex model than the risk premium model. Staff's risk premium analysis is a relatively straight-forward measure of the premium that equity holders require to hold stock, as opposed to safer corporate bonds. Elert Reb. T./Staff Exb. 58 at 14. The CAPM portrays the cost of equity not as a simple point spread, but as equal to the value of a risk-free asset and a multiple of the difference between a risk-free return

and the market return. *Id.* at 16. Staff's CAPM analysis yields a 10.44 percent cost of equity.

In summary, witness Elert's DCF methods yields an average cost of equity of 11.25 percent, while his risk premium, capital appreciation, and CAPM methods result in cost of equity values of 10.73 percent, 10.44 percent, and 9.88 percent, respectively. Witness Elert explains that he eliminates from his calculations certain DCF results that he deems too low, such as that yielded by his S & P 500 DCF calculation. The average of those values equals 10.35 percent. For his recommendation, witness Elert determines it is most appropriate to set Verizon's cost of equity at 10.75 percent, which is the average outcome of his DCF and other analyses.

4. Commission Decision

Verizon's witness performs fewer analytical procedures than other parties, and uses as comparable companies subjectively selected companies that have little financial or structural resemblance to Verizon. For example, after eliminating the largest and smallest companies from his sample, witness Vander Weide is left with 110 companies, 100 of which have predicted growth rates in excess of 10 percent, with 46 of the 110 companies having costs of equity in excess of 15 percent. The Commission is not persuaded that the companies selected by witness Vander Weide, by stock price, dividend, and positive growth rate, are representative of either Verizon or of the risk faced by Verizon. Witness Vander Weide's single stage DCF analysis assumes these rates of growth and

return into the indefinite or nearly indefinite future. Tr. at 1715. The Commission views the use of such companies in a single stage analysis as leading to an essentially foregone conclusion.

The Commission further finds that Verizon's recommended cost of equity would be appropriate for a company facing considerably more risk, due to increased competition, than the competition Verizon will realistically face going forward. Even witness Vander Weide testifies that he does not have any "hard data" to quantify the degree of CLEC competition in Verizon Maryland's territory, and that any information he has came from Verizon.[14] The weight of the evidence reveals that competition from CLECs in Maryland has not progressed as anticipated. Tr. at 1700-1701. CLEC penetration in Maryland is currently minimal. While the Commission anticipates that telecommunications competition will increase in Maryland, any change will most likely be gradual. While witness Vander Weide believes that the FCC's Local Competition Order contemplates that TELRIC rates should reflect "a vigorously competitive market," he also acknowledges that the same order assigns ILECs the burden of demonstrating the level of business risk they face. Tr. at 1623. Furthermore, the Commission finds Verizon's use of the cost of equity of other former Bell Operating Companies unpersuasive.

[14] On cross-examination witnesses for Verizon confirmed its response to a Staff data request that stated it did not have information on the percentage of the local exchange market it currently held. Verizon also claimed that it had no information on competitors' total revenues and service units. Tr. at 1703.

The Commission, in considering all the parties' cost of capital and capital structure arguments, relies upon the party doing the most detailed and precise analysis. The Commission finds that Verizon has not successfully carried its burden of demonstrating by a preponderance of the evidence that the competitive risks Verizon faces warrant a higher risk-adjusted cost of equity. Verizon asks the Commission to assume that it will face vigorous competition in the near future. The Commission declines to make this assumption, and Verizon itself views competition as less robust than once anticipated. *See*, *e.g.,* Verizon Recurring Panel Surreb. T./Verizon Exb. 5 at 229.

Finally, the Commission rejects Verizon's argument that to assume a TELRIC environment is to assume a perfectly competitive environment and, therefore, a higher level of business risk for Verizon. This clearly is an inaccurate assumption because the FCC has never assumed that its TELRIC pricing methodology requires a perfectly competitive environment.

AT&T/WorldCom witness Hirshleifer's analyses result in costs of capital and capital structure that are closer to Staff's and DOD/FEA's than to Verizon's. Thus, AT&T/WorldCom's numbers provide additional support to the capital structure components the Commission approves herein. Mr. Hirshleifer performs a more rigorous examination of Verizon's capital requirements than Verizon itself does. AT&T/WorldCom's average debt to equity ratio of 34.5 to 65.5 percent is, however, reflective of a more competitive company than the Commission finds Verizon to be.

Having carefully reviewed the record, the Commission adopts Staff's recommended cost of common equity of 10.75 percent plus five basis points for flotation costs.[15] Staff performed numerous studies on a wide range of competitive and regulated companies in reaching its recommendation. Staff's various analyses serve as checks on each other. Staff's analyses appear to be clearly more rigorous and thorough than other parties' analyses, thereby persuading the Commission that Staff's is the most carefully substantiated proposal. Thus, the Commission finds Staff's recommendation more compelling and most likely to result in a reasonable cost of equity.

B. Cost of Debt

The recommended cost of debt in this proceeding spans a narrow range of 91 basis points. Verizon advocates 7.55 percent, AT&T/WorldCom recommends 7.86 percent, and Staff proposes 6.95 percent. Cost of debt is incurred as the result of the issuance of bonds. Therefore, it is not unusual to have a narrow range of proposals, particularly when a company, such as Verizon, enjoys a reliable income stream so the sale of its bonds is not subject to wide price volatility. In reaching its decision on cost of debt, the Commission takes administrative notice of the steady decline in interest rates since Case No. 8879 was filed in 2001.

[15] Verizon raises the issue of flotation costs only on rebuttal. The record on this question is incomplete. As the Commission has in the past, however, it will permit recovery of a small flotation cost to compensate Verizon for issuing equity.

The Commission concludes that a return on debt of seven percent is just and reasonable. This number adopts Staff's recommended 6.95 percent, plus an additional five basis points to account for the flotation costs of issuing debt.[16] Even in a forward-looking environment marked by greater competition than now exists, today's climate suggests that seven percent is equitable. The choice of a seven percent return on debt establishes a nearly four percent risk premium between equity and debt. Since Verizon is the dominant local exchange carrier in Maryland and is likely to be so for the reasonably foreseeable future, a return higher than seven percent in a declining interest rate environment is not required. This 3.8 percent risk premium is consistent with Staff witness Elert's recommendation, and with the Commission's anticipation that competition will continue to increase gradually. Therefore, the Commission finds a nearly four percent risk premium and a seven percent cost of debt reasonable.

C. Capital Structure

Generally, companies in more competitive markets require a greater percentage of common equity in their capital structures. Here, Verizon seeks a capital structure containing 75 percent equity and 25 percent debt. This proposal reflects Verizon's belief that this is an appropriate capital structure in a fully competitive market.

[16] Verizon raised the issue of flotation costs only on rebuttal. The record on this question is incomplete. As the Commission has in the past, however, it will permit recovery of a small flotation cost to compensate Verizon for issuing debt.

Staff and DOD/FEA both propose that Verizon's capital structure consist of 40 percent debt and 60 percent equity. AT&T/WorldCom proposes a 34.5 percent to 65.5 percent debt/equity split. Those proposals are appropriate for an enterprise facing a degree, but not a high degree, of competitive risk. They stand in contrast to Verizon's proposal of 25 percent debt and 75 percent equity. Such a capital structure would require the Commission to assume that Verizon's UNE sales business was a very risky operation.

The Commission is not persuaded by witness Vander Weide's arguments that Verizon is, or is about to be, a company operating in a fully competitive market. The Supreme Court recognized in a related point in *dicta* in *Verizon Communications* that "[an incumbent LEC has] ... competitive advantage not only in routing calls ... but, through [its] control of this local market, in the markets for terminal equipment and long-distance calling as well." 122 S.Ct. at 1662. While Staff witness Candelario testifies that the number of facilities-based carriers and resellers of both local and long distance service has increased between the date he submitted testimony and the December 11, 2001 cross-examination of that testimony, CLEC penetration in Verizon Maryland's territory is still not high. Tr. at 1547.

Even in a forward-looking TELRIC-compliant environment, the Commission expects Verizon to remain the dominant local exchange carrier in Maryland. While a reduction in Verizon's equity could be justified if the market were more competitive, such

a conclusion is not justified based on the record in this proceeding. Consequently, the Commission will maintain Verizon's capital structure of 60 percent equity and 40 percent debt, as previously approved in Case No. 8731.

While the Commission does not adopt AT&T/WorldCom's rates of return and capital structure, AT&T/WorldCom's analyses do bolster the Commission's overall conclusion on capital structure. The Commission notes that AT&T/WorldCom reaches its conclusions by methods more similar to Staff's methods than to Verizon's methods. For example, AT&T employs a three-stage DCF analysis as opposed to the one-stage analysis Verizon employs, and its analysis is consequently more similar to the four-stage DCF analysis Staff witness Elert relies upon. Finally, AT&T/WorldCom's recommended cost of common equity is only 33 basis points less than Staff's recommendation.

Therefore, the Commission determines that, based on the record, Verizon's weighted average cost of capital will be:

Cost of Common Equity		Percent Equity		
10.80%	X	60%	=	6.48%
Cost of Debt				
7.00%	X	40%	=	2.80%
Verizon's weighted average cost of capital			=	9.28%

As it has in past cases, the Commission recognizes that the issuance of new debt and new equity may require the award of

flotation costs. In the present case, the Commission adds five basis points to Staff's cost of equity and cost of debt to adjust for flotation cost, as is reflected above.

V. RECURRING COSTS

A. Annual Cost Factors

1. Proposed Factors

Verizon proposes numerous annual cost factors ("ACFs") to "calculate the relationship between the expenses associated with each class of equipment in the forward-looking network and the material cost of the equipment itself." Verizon In. Br. at 22. Through its ACFs, Verizon attempts to ensure that recovery is adequate for its various cost centers, such as general overhead, engineering, and land and buildings. Verizon stresses that even though it uses expense data from 1999 as the starting point for many of its cost factors, it adjusts that data to achieve what it maintains are forward-looking costs. The other parties hereto challenge several of Verizon's cost factors as unsupported and perhaps resulting in over-recovery, even double recovery.

AT&T/WorldCom objects to the fact that Verizon bases the expense calculations underlying its recurring cost factors entirely on "embedded" 1999 data. According to AT&T/WorldCom, Verizon simply adjusts the 1999 expenses to 2001 levels, without first showing that 1999 expenses are representative of its costs. In its Synthesis Model, AT&T/WorldCom claims to have restated Verizon's

1999 expenses using a methodology to make them more forward-looking. AT&T/WorldCom In. Br. at 41.

2. Forward-Looking to Current ("FLC") Factor

Verizon claims that its FLC factor is designed to estimate the relationship between the TELRIC investment in Case No. 8879 and the investment level used by Verizon in developing its actual cost factors. According to Verizon, the FLC factor recovers any shortfalls of forward-looking expenses that occur due to, *e.g.*, development of maintenance expenses based on the lower cost forward-looking equipment. As Verizon witness Minion explains, the shortfall for which the FLC is designed to compensate is "strictly a theoretical expense shortfall, which reflects what happens if you calculate [expenses] on one [cost] basis and don't make an adjustment and blindly apply it [to] the other [cost] basis." Tr. 349.

Verizon asks the Commission to accept an 80 percent FLC factor, and admits that the 80 percent figure is a "'placeholder' based on experience elsewhere and a preliminary analysis of the data here." Tr. at 349.

Verizon essentially proposes to finalize its FLC factor only after this case ends. During Commission examination, the Commission asked if Verizon "would wait until this Commission issues an order in [Case No. 8879] and then . . . take whatever inputs [were] set, and then come in [with its] own FLC factor, without review by this Commission." In response, witness Minion admitted that the Commission would only have minimal review of the

actual FLC factor, once Verizon finalizes it after the issuance of the order. Tr. at 350.

AT&T/WorldCom contends that Verizon's FLC factor is not TELRIC-compliant, because Verizon simply seeks to recover its 1999 expenses, plus productivity and inflation adjustments. Thus, AT&T/WorldCom, consistent with the positions of all parties other than Verizon, seeks to eliminate the FLC factor.

Staff objects to the FLC factor for essentially the same reason as AT&T/WorldCom, namely that the FLC is designed to recover Verizon's predetermined costs rather than actual forward-looking costs. Staff finds especially troubling Verizon's proposal that the Commission accept a hypothetical or placeholder FLC factor, based on New York data, rather than one based on actual Maryland data. Staff argues that Verizon's proposal is the result of the Company having predetermined the expense of its network before knowing what network investment will be. Staff urges the Commission to reject Verizon's FLC factor entirely.

Staff believes that the FLC factor is a "make-whole" provision based on embedded data and is designed to increase the operating expense components of the ACFs in order to offset decreases in investment, and to maintain operating expenses at current levels. Fischer Rebuttal Testimony at 11. Staff witness Fischer argues that the FLC is present in almost all studies and cost factors. Thus, the FLC factor causes costs to be overstated in almost every rate element in this proceeding. Specifically, according to Staff, the FLC factor contaminates the following

annual cost factors: network, wholesale marketing, other support, common overhead, and land and building. Thus, the effect of the FLC is to improperly increase these rates for virtually all UNEs and other UNE-related services.

The Commission declines to adopt Verizon's FLC factor. Verizon fails to carry its burden on this highly speculative adjustment. Verizon essentially asks for pre-approval of an unspecified, unsupported, and implicitly upward adjustment to Maryland UNE rates. Verizon develops its requested FLC based upon New York studies and provides no Maryland-specific data to support it. Further, the Company fails to provide sufficient evidence to indicate that the opportunity for double recovery is eliminated if the FLC is approved. Verizon also fails to demonstrate to the Commission that, in a declining cost and increasingly efficient forward-looking network, an FLC factor is necessary at all. Moreover, the Commission finds Staff witness Fischer’s criticisms of the FLC factor particularly persuasive. Further, the Commission agrees with Staff's position that other factors, approved herein, serve to mitigate any pricing aberration that may occur due to TELRIC assumptions and provide Verizon with appropriate and sufficient adjustments. Thus, the Commission directs that the FLC factor be eliminated and that it be removed from any other factor to which it has been applied.

3. Verizon's Network Annual Cost Factors

a. Wholesale Marketing Factor

Verizon argues that its wholesale marketing expenses are necessary to advertise UNEs to CLECs, and to create brand awareness. Verizon's wholesale marketing factor is also designed to recover certain education and training costs. Verizon admits that its proposed advertising may be regional advertising, rather than advertising exclusively directed toward Maryland CLECs. Verizon's Wholesale Marketing factor consists of four cost components: product management, marketing sales, advertising, and service center costs.[17] Verizon asserts that this factor is intended to convince CLECs to purchase its UNEs and other services.

AT&T/WorldCom argues that "Verizon's cost study attempts to charge CLECs for Verizon's *retail* advertising." AT&T/WorldCom Recurring Panel Reb. T./AT&T Exb. 31 at 82 (emphasis in original). Verizon is attempting, according to AT&T/WorldCom, to recoup wholesale advertising costs it would normally incur in a competitive environment. AT&T/WorldCom In. Br. at 42. Verizon admits to doing "almost no wholesale advertising today" and has shown little need to do such advertising in the future, AT&T/WorldCom points out. *Id.* at 42-43.

As People's Counsel witness Lundquist asserts, Verizon's Wholesale Marketing Factor includes the recovery of costs that should only be attributable to its retail marketing efforts.

[17] Verizon's proposed Wholesale Marketing factor is a proprietary number.

Witness Lundquist argues, therefore, that the Wholesale Marketing factor creates double recovery of these marketing costs, which should not be paid by wholesale customers.

Staff advocates a 50 percent reduction in Verizon's wholesale marketing factor. Staff notes that the Commission investigated the wholesale marketing factor in Case No. 8842 and ordered that the factor be reduced by 50 percent. Staff In. Br. at 73. Staff asserts that Verizon fails to show that the Commission should deviate from its Order in Case No. 8842. Witness Fischer's testimony provides support for Staff's conclusion.

The Commission finds that Verizon is currently, and into the future will be, the only provider of UNEs in Maryland. As such, Verizon's need for UNE marketing is not apparent. While other parties focus their challenges to the Wholesale Marketing factor on what they consider unjustified advertising expenses, the Commission focuses on the underlying purpose of the factor. Product management, to the extent it aims to encourage the CLECs to purchase UNEs, appears largely superfluous. As People's Counsel's witness Lundquist asserts, Verizon's advertising expense includes retail advertising costs that CLECs, who are Verizon's competitors, should not have to pay. Indeed, the Commission believes that experience shows that economics rather than marketing determines whether CLECs buy UNEs.

The Commission determines that Verizon's proposed Wholesale Marketing factor should be reduced by 50 percent. This reduction is warranted because Verizon has not persuaded the

Commission that advertising is in any way integral to, or even useful for, the provisioning of UNEs in Maryland. Verizon is the sole supplier of UNEs in this State. Verizon's argument that it needs to advertise either its ability to provide UNEs or its brand name is unconvincing. However, the Commission is persuaded that the product management increment is overstated, as it reflects some functions that support retail operations. Therefore, by reducing Verizon's Wholesale Marketing factor by 50 percent, the Commission intends to eliminate recovery of advertising costs, costs associated with Verizon brand recognition, and inflated product management costs. Despite this reduction, the Commission will still permit the Company to continue to recover reasonable costs for the education, service, and training also included in this factor.

b. Other Support ACF

People's Counsel argues that three corrections need to be made to Verizon’s development of its Other Support ACF. First, the FLC should be eliminated from this factor as from all other factors. Further, People's Counsel argues that unassigned land and building investment should be removed from the Other Support ACF. Since Verizon provides no evidence that the unassigned investment is necessary to provide UNEs, People's Counsel recommends an adjustment to remove unassigned investment. Finally, People's Counsel states that Verizon assumes that its support investments required for retail services will also be necessary for wholesale provisioning of UNEs. People's Counsel concludes that end-user

customer care, marketing, and billing are not as necessary in wholesale operations as in retail operations. To correct for this, People's Counsel recommends that the Commission adopt a 17.3 percent avoided retailing cost factor that is consistent with the FCC's treatment of avoided retailing costs.

The Commission adopts People's Counsel's position that the Other Support ACF is overstated, and therefore adopts three adjustments to the Other Support ACF. First, the Commission directs that Verizon remove the FLC factor, as already adopted herein. Second, the Commission is convinced that unassigned land and building investment should also be removed from the Other Support ACF, and directs Verizon to do so. Finally, the Commission agrees with People's Counsels arguments and adopts a 17.3 percent avoided retailing cost factor to remove end-user customer care, marketing and billing expenses that are inappropriately recovered in this factor. Verizon fails to make its case that these items are legitimately included as contributions to UNE costs and are not already recovered elsewhere. Thus, the Commission finds that the Other Support ACF should be set at the level proposed by People's Counsel.

c. Common Overhead ACF

Common overheads are those costs that cannot be directly assigned to a specific investment. Such expenses include legal, executive, human resources, and accounting costs. In the present case, Verizon asks for a 7.98 percent Common Overhead ACF for recurring costs; however, Staff recommends reducing common

overhead to 7.10 percent. Staff reasons that a ten-year decline in the number of Verizon's employees, and the leveling off of Verizon's other expenses generated by efficiencies, justify this reduction in Verizon's Common Overhead ACF. People's Counsel argues that the Commission should not allow Verizon any common overhead recovery if it permits Verizon to recover the Other Support ACF.

The Commission finds that some degree of double-recovery will exist if Verizon is permitted to apply the Other Support ACF authorized herein and its proposed Common Overhead ACF. Since the Commission is allowing the recovery of a reduced Other Support ACF, some reduction in the Common Overhead ACF is warranted as well, in order to eliminate that double recovery. The Commission finds that Verizon fails to make its case that a higher number is warranted or that double recovery does not exist. In addition, the Commission is persuaded by Staff's argument regarding the opportunities for increased efficiencies in a forward-looking environment. Accordingly, the Commission finds a reduction of the Common Overhead ACF to 7.01 percent is appropriate.

d. EF&I Factor

Verizon's Engineering, Furnish & Install ("EF&I") factor derives a labor component. The labor costs Verizon uses are apparently regionalized, even though this Commission, in Case No. 8842, ordered Verizon to use local labor costs. By failing to provide local labor costs, Verizon has deprived the Commission of the most useful record on this subject. The Commission takes

administrative notice, however, that labor costs in other Verizon regions, such as the New York metropolitan area and Washington, D.C., are higher than in the Baltimore metropolitan area.[18] The Commission accepts Verizon's recurring EF&I factor, as adjusted by the elimination of the FLC, but again instructs Verizon, in the future, to employ Maryland labor rates for engineering, furnish and install costs in this factor.

e. Land and Building Factor

Verizon conducted a study as the basis for its Land and Building factor. While Staff objects to Verizon's lack of justification for its "unassigned" land and building category, it does not object to the other components of Verizon's Land and Building factor. People's Counsel objects to inclusion of the FLC factor in the Land and Building factor. OPC Initial Brief at 42. Consistent with our ruling provided herein, the Commission excludes the FLC factor from the Land and Building factor, but otherwise accepts this factor as reasonably based on Verizon's study.

[18] For example, Bureau of Labor Statistics mean yearly salaries for the employment category "Telecom Equipment Installers and Repairers, Except Line Installers," Code 49-2022 in Baltimore, Washington, D.C. and New York City are as follows:

	Mean	Annual Mean
Baltimore	$22.92	$47,676
Washington, D.C.	23.08	48,010
New York City	26.01	54,100

http://www.bis.gov/oes/2000/oes_5600.htm#b49-0000.

f. Gross Revenue Loading Factor

The Gross Revenue Loading factor is designed to recover the costs of uncollectible revenue incurred in selling UNEs.

Staff and OPC are in agreement with Verizon that the Gross Revenue Loading Factor should be included in Verizon's cost calculations. The factor consists of three parts: gross receipts taxes, Commission and FCC assessments, and uncollectibles. The Commission accepts the consensus of the parties and supports the inclusion of this factor of 0.0022, as proposed by Verizon.

g. Network ACFs

The presence of Network ACFs in Verizon's calculations raises issues about the efficiency and productivity of Verizon's network following recent mergers with NYNEX and GTE. Verizon claims that following the NYNEX merger it had reached a level of efficiency that was not significantly changed by the GTE merger. Verizon claims that actually demonstrating this assertion would be too costly and burdensome. Nonetheless, Verizon acknowledged GTE merger savings in the New York UNE case. Staff In. Br. at 68 (citations omitted). Staff requested an analysis of merger savings recognized by Verizon in Maryland as a result of the Bell Atlantic/GTE merger. However, Verizon declined, claiming that it was too costly. Therefore, the Staff recommends that the Commission adopt the productivity factor employed in New York.

Since there was apparently a more complete record in New York, and since Verizon has admitted there and before the FCC that the GTE merger did improve efficiency, the Commission adopts the

3.95 percent productivity factor recommended by Staff. There is no reason to presume, based on the record in this case, that some of the savings valid in New York are not equally valid in Maryland. Moreover, to date, no GTE merger-related savings have been affirmatively applied to benefit Maryland customers. The Commission will also, in light of anticipated TELRIC efficiency savings going forward, apply the 3.95 percent productivity factor on an annual basis.

Secondly, Staff witness Fischer performs a five-year study of Verizon's plant network accounts, which shows a downward trend in plant maintenance and repair costs. The Commission is persuaded by these data and adopts Staff's recommended five-percent reduction to the plant maintenance and repair costs component of the Network ACF. This adjustment is consistent with the Commission's conclusion that in a TELRIC environment, network costs will decrease and efficiency increase.

Third, the Commission removes the reciprocal compensation factor from Network ACFs. Reciprocal compensation is scheduled for elimination in the forward-looking environment and should therefore be eliminated from cost calculations related to the forward-looking environment. This treatment is consistent with that employed by the FCC.

B. Loops

Loops are essential to any telecommunications network. They are the element CLECs are least likely to build and most

likely to purchase as a UNE. Thus, appropriate loop cost and loop architecture are central to the resolution of Case No. 8879 in a manner consistent with TELRIC principles.

1. Loop Architecture

Loop architecture deals with the connection from a service provider's switch to the customer's Network Interface Device ("NID"). There are several architectures that can be used to make the loop connection from switch to NID. They include a two-wire copper loop (two copper wires) and three generations of Digital Loop Carrier ("DLC"). Universal Digital Loop Carrier ("UDLC") complies with the Telcordia Technical Requirement 056 ("TR056"), Integrated Digital Loop Carrier ("IDLC") complies with the Telcordia Technical Requirement 008 ("TR008") or Telcordia General Requirement 303 ("GR303"),[19] and Next Generation Digital Loop Carrier ("NGDLC") complies with GR303. Starting with UDLC and evolving through IDLC to NGDLC, network providers have deployed each type of DLC based on its ability to reduce costs relative to copper loops or to make the required replacements or to increase the functionality of earlier versions of DLC.

The newest standard, GR303, is designed to support more capabilities than the TR056 and TR008 standards, and the manufacturing community has been able to significantly reduce the cost of the technology for GR303-compatible products. The cost

[19] Newton's Telecom Dictionary defines GR303 as "The set of technical specifications from Telcordia to help define what the next generation of the worlds telecommunications networks might look like."

reductions are the result of technology's evolution to higher density components, direct fiber interfaces at both the switch and the remote terminal, and software advances that allow more functionality to be located at the Remote Terminal ("RT"). While both TR008 and GR303 support Integrated DLC, only GR303 offers a direct fiber interface at the switch and RT. The lower cost and greater functionality of GR303 products can result in significantly reduced operational, administrative, and maintenance costs to the network operator.

Verizon testified that it currently utilizes fiber DLC for 20.6 percent of its total access lines, but that it uses 72 percent fiber DLC for its forward-looking network, resulting in 28 percent of its forward-looking lines still being served on copper. Verizon Recurring Panel Surreb. T./Verizon Exb. 5 at 90. Verizon further testifies that it assumes 10 percent of its forward-looking network will be GR303. Tr. at 207. The testimony in this case indicates that Verizon currently deploys products based on GR303, but that it has not yet deployed GR303 products that incorporate the entire functionality defined by GR303. Verizon claims, among other things, that utilization of 100 percent GR303 IDLC on its DLC network is impossible, as IDLC is incapable of providing unbundled loops and non-switched services.

Conversely, the CLEC community, OPC, and Staff advocate that high penetrations of fiber DLC should be used in a forward-looking network. AT&T/WorldCom testifies that "the most efficient, forward-looking Digital Loop Carrier technology currently available

is the IDLC system that utilizes a Time Slot Interchanger ("TSI") feature and interfaces to the Local Digital Switch ("LDS") *via* the GR303 interface." AT&T/WorldCom Recurring Panel Reb. T./AT&T Exb. 31 at 24 (emphasis in original). Staff proposes that all DLC in a TELRIC network should be 100 percent IDLC with a GR303 NGDLC interface. Staff witness Gates clearly states that "the Commission should order [Verizon] to assume within its cost study the exclusive use of forward-looking, least cost IDLC systems (with a GR303 interface)." Gates Surreb. T./Staff Exb. 36 at 11. OPC witness Lundquist also advocates use of 100 percent IDLC, stating that "... the Commission should require [Verizon] to assume for TELRIC costing purposes that it has deployed 100% forward looking DLC technology, namely GR303 compatible NGDLC...." Lundquist Reb. T./OPC Exb. 2 at 95. Thus, parties to this case other than Verizon maintain not only that all DLC in Verizon's forward-looking network should be of the Integrated Digital Loop Carrier type, but that the IDLC should be deployed exclusively according to the GR-303 standard. In their view, both IDLC and NGDLC should be constructed according to the most advanced technological standards, in order to achieve an efficient forward-looking network.

The Commission permits Verizon's hypothetical network to consist of 72 percent DLC and 28 percent copper as proposed by Verizon. The Commission concludes that it is not unreasonable for a forward-looking network to contain some copper. However, the Commission is persuaded by testimony in this case that GR303 offers the greatest cost efficiencies, and finds that the 10 percent GR303

proposal by Verizon is insufficient to create a cost-effective forward-looking network. Indeed, most parties argue 100 percent GR303 is the appropriate percentage of GR303 in a forward-looking environment. The Commission acknowledges that the Act requires the Commission to consider and accept Verizon's existing wire center boundaries in its construction of Verizon's forward-looking network. Therefore, the Commission questions whether 100 percent GR303 penetration of Verizon's DLC network is actually achievable taking into consideration those boundaries, as well as the need to reflect an efficient forward-looking environment. The Commission, based on the record in this proceeding, concludes that 50 percent is the appropriate number.[20] The Commission finds this percentage to be both reasonable in a forward-looking network, balanced, and attainable.

2. Fill Factors

A fill factor is a comparison of working capacity to total capacity in a particular facility. Verizon presents numerous fill factors that are at issue here. Each represents the level of utilization that at a minimum triggers study of the need for more loop capacity. As loop capacity is expensive, a low utilization factor will result in higher loop costs than a high utilization factor.

Verizon, the CLECs, and Staff advocate the following fill factors:

[20] The cost model inputs for the 72 percent DLC are: 50 percent UDLC and 50 percent GR303.

	Verizon	AT&T/WorldCom	Staff
Dist. Fill Factor	43.30% effective fill	Target fills of 50%-75% = 52.5% statewide average effective fill	62%
Copper Feeder	62.50%	Target fills of 70%-82.5%	76%
Fiber Feeder Fill Factor	79.40%	Target fill of 100% before breakage	90%
DLC Fill Factor	Plug-In - 80% Common - 62.50%	70%-82.5%	90%

a. Verizon

Verizon maintains that its fill factors are forward-looking and are "based on the fills that have been achieved in the efficient operation of Maryland's network and that have remained constant over time." Verizon In. Br. at 41. Verizon claims that it requires the substantial spare capacity provided by its fill factors to provide timely, high quality service. For example, the Company contends that the primary consideration in constructing distribution plant is its need to accommodate subscribers' requirements for multiple lines in a timely manner. As witness Minion testifies, Verizon builds capacity to ultimate demand. *Id.* at 44. Verizon claims it cannot anticipate when a demand for multiple lines will arise in any particular neighborhood, and that the need for speedy and efficient response to such demands requires constructing distribution facilities with at least two pairs of distribution cables per subscriber.

While Verizon similarly justifies its fiber utilization numbers by its need to have spare fiber strands available to serve

growing usage, Verizon also claims that spare fiber capacity is cost-effective. Verizon states that most fiber cables are manufactured with individual fiber strands sealed in "ribbons" -- groups of 12. Verizon finds it cost effective to allocate and dedicate fiber by ribbon, even when only a few strands of the ribbon are used. It claims that the alternative -- separating used from unused strands individually -- is time consuming and expensive.

b. AT&T/WorldCom

AT&T/WorldCom challenges Verizon's fill factors as far too conservative. AT&T/WorldCom points out that Verizon provided no Maryland-specific justification for its fill factors, and cited Massachusetts as a state that requires Verizon to assume higher fill factors than Verizon proposes. AT&T/WorldCom asserts that Verizon's fill factors are based on Verizon's existing or embedded network and wrongly require existing customers to pay for future customers' needs.

AT&T/WorldCom proposes fill factors developed by its Synthesis Model. The Synthesis Model produces fill factors for distribution and copper feeder that are nearly 10 points higher than Verizon's. AT&T/WorldCom contends that use of feeder must exceed 90 percent before engineers should even begin preparations for installing increased capacity. Since AT&T/WorldCom's proposed fill factors are well below that threshold, AT&T/WorldCom insists that its factors would satisfy both Verizon's need for capacity and customers' need for the most efficient network.

Consistent with its view that high fill factors are practical, AT&T/WorldCom provides the following illustration:

> If a feeder route were relieved when utilization was 97% and five years of spare capacity were provided, the utilization of the route would be 82% immediately after relief for a route growing at the average growth rate in Verizon's network (3%). The average utilization rate over the next five years would be 89.5%. A utilization rate of 80% is therefore conservative and allows sufficient capacity for growth, churn and breakage.

AT&T/WorldCom also challenges Verizon's fill factors on the ground that the forward-looking network, assumed by TELRIC, would be significantly more efficient and would have higher utilization rates than the 62.5 percent Verizon would employ for cable. Higher utilization rates would result in higher fill factors.

c. Staff

In reaching its recommendation in Case No. 8879, Staff relies heavily on the fill factors the Commission imposed in Case No. 8731. Staff apparently agrees with Verizon that its copper network will become increasingly full, and thus its utilization factor will actually increase over time. Copper, however, will be replaced by fiber-based DLC systems, rather than more copper, in a forward-looking environment. Staff therefore reasons that use of Verizon's actual embedded fill factor will unrealistically inflate loop costs in a forward-looking environment. Therefore, Staff proposes to continue to assume the 76 percent fill factor for

copper feeder and the 90 percent fill factor for fiber feeder of the forward-looking network this Commission assumed in Case No. 8731.

Staff would employ a fill factor of 62 percent in Verizon's distribution system. Staff achieves its number by increasing Verizon's current 43.3 percent fill factor by a four-percent growth factor for 20 years. Staff initially favored employing the 57 percent distribution fill factor approved by the Commission in Case No. 8731, but was persuaded by People's Counsel's witness Lundquist that moving in the direction of "just in time" capacity relief would not only serve the Company's real needs, but result in a higher and more economical fill factor than Verizon's. Staff also supports its position by noting that the FCC's USF order included distribution fill inputs that ranged from 50 percent to 75 percent. Staff In. Br. at 53.

d. People’s Counsel

People's Counsel argues that Verizon seems to have based its fill factors on embedded plant and that Verizon's fill factor is just an embedded average utilization level, which is inappropriate to apply to a forward-looking network. The Commission has rejected fill factors based on average utilization levels in the past, People's Counsel points out, and should do so now.

Further, People's Counsel asserts that a distinction between building plant for "ultimate demand" and for "just in time" satisfaction of demand is essential here. Building for ultimate

demand, according to People's Counsel, places costs for a future network on present ratepayers. While People's Counsel admits that "just in time" construction is less expensive in the short run, People's Counsel also admits that costs may increase due to charges for placing additional cable as capacity is exhausted. People's Counsel's approach to resolving this dilemma is to increase Verizon's distribution fill factor to 62 percent, a level that more nearly corresponds with the "just in time" capacity relief approach. Such a decision, People's Counsel argues, is consistent with the FCC's ruling that "the fill factor selected for use in the Federal mechanism generally should reflect current demand and [should] not reflect the industry practice of building distribution plants to meet ultimate demand." People's Counsel In. Br. at 28 (citation omitted).

e. Commission Decision

Having given this matter careful consideration, the Commission adopts Staff's positions. Staff's reasoning balances Verizon's legitimate need for spare capacity with recognition that a forward-looking network will be increasingly efficient. Verizon's current utilization rates unduly burden ratepayers with excess spare capacity. Staff's numbers correct that situation, while providing ample spare capacity to serve customer requirements in the foreseeable future.

The Commission rejects the concept that Verizon's forward-looking network should be constructed to meet ultimate demand. Instead, the Commission supports the Staff's position that

there should be a balance between ultimate demand and just in time approaches. Designing networks with either methodology may place excessive burdens on current ratepayers. The Commission instead relies on Staff's conclusions, which are based in part on Case No. 8731's analysis, as well as the various analyses in this case. Thus, the Commission finds a fill factor of 76 percent for copper feeder, a fill factor of 90 percent for fiber feeder, and a fill factor of 62 percent for distribution, appropriate.

3. Electronics and Plug-In Fill Factors

All electronic systems consist of two types of electronics, common and plug-in. The common electronics are the circuits that control the system and provide administrative and overhead functions. They are also required to support the common functions for the community of interest to which they are assigned. In the case of an RT, the common electronics could serve a community of interest, or customers, of 100 to 400 customers. Common electronics are typically configured in duplex arrangements, which means there are two complete sets of common electronics, one of which is active and the other of which is standby. This is done in the interest of reliability and to reduce the likelihood that a single circuit pack failure could cause a failure of the entire system.

Plug-ins, on the other hand, are deployed in simplex or single mode, and thus are not duplicated. Plug-ins are the circuits that serve an individual customer, or small group of customers, so their failure would not affect the entire community

of interest. AT&T/WorldCom proposes a 70 percent to 82.5 percent fill factor for plug-in electronics, in contrast to Verizon's 80 percent proposal for plug-ins and 62.5 percent for common electronics.

Staff advocates a 90 percent combined fill factor for electronics, an increase from the Electronics Fill factor adopted by this Commission in Case No. 8731. Staff argues that because electronics are expensive, they are not cost effective if not used. Staff states:

> Because Channel Units can be placed as demand emerges, a very high rate of utilization can be achieved (indeed, this is the very reason that digital loop carrier equipment is engineered with circuit specific plug-in equipment).

Gates Reb. T./Staff Exb. 34 at 26. Therefore, Staff urges the Commission to effectively assume a higher utilization rate than Verizon's witness Gansert claims is the Company's utilization goal.

The Commission agrees with Staff’s argument that plug-ins are readily available and easy to install, which provides the opportunity to wait a longer period of time before installation when capacity is closer to being exhausted. Therefore, the Commission finds that there is significant room for increasing these fill factors. Consequently, Verizon's amended proposal remains too low in a TELRIC environment. Therefore, the Commission adopts a 90 percent combined fill factor for both the Common Electronic and Plug-in Fill factors.

C. Switching

1. Verizon

A switch, according to Newton's Telecom Dictionary (2001), is a mechanical, electrical, or electronic device that opens or closes circuits, completes or breaks an electrical path, or selects paths or circuits. Switches determine the destination of a call and set up a path through the switching matrix to complete that call.

The switch categories that are most relevant to Case No. 8879 include "new," "growth," and upgraded switches. While "new" switches are simply that, "growth" switches have received additional lines and trunks necessary to serve additional customers. Upgraded switches contain features enabling performance of increasingly sophisticated features and functions. The "new" and "growth" switch categories are important to UNE cost calculations because the manufacturer discounts new products differently than growth products. Normally, new switches carry a substantially greater discount than growth or upgraded switches. Since switch discounts must be reflected in the switch costs that Verizon recovers from ratepayers, the proportion of new, existing, and upgraded switch costs on Verizon's system will strongly influence the amount Verizon recovers from interconnecting carriers.

Verizon states that its switching discounts are calculated based on actual year 2000 switch purchases from Lucent and Nortel and from current contract commitments with Nortel.

Verizon In. Br. at 49. Verizon proposes switching discounts of **<Begin Proprietary>** ***** **<End Proprietary>** percent for Lucent and **<Begin Proprietary>** ***** **<End Proprietary>** percent for Nortel. Verizon argues that TELRIC-based rates must capture incremental costs that incumbents actually expect to incur, and that Verizon's most recent purchase data is the best guide to those costs. *Id.* at 50. Verizon further maintains that its switching costs are based substantially on "growth" switches, but do contain some "new" switch discounts. Verizon argues that its switch mix is appropriate because, in its view, the FCC has rejected any need to base switch discounts on the assumption that all of Verizon's switches are new, and this Commission should reject any similar argument.

Even if Verizon were to assume that it replaces all of its switches at the same time, Verizon claims that it would not reap the significant discounts that other parties assume. Instead, Verizon claims that vendors' higher costs to meet sudden heavy demand would largely wipe out vendor discounts. Verizon Recurring Panel Surreb. T./Verizon Exb. 5 at 197.

Verizon develops its switch discount based on the System Cost Information System ("SCIS") model, which reveals in detail the Company investment in central office as well as remote switches. Verizon assumes 9.6 percent GR303 in its SCIS inputs, an amount of GR303 that it claims is well in excess of the amount of GR303 equipment it employs or plans to employ.

Verizon also claims that its assumption of 49.2 percent digital loop carrier ports is forward-looking, because digital loop carrier ports are less expensive to install than analog ports. Thus, increasing the number of digital loop carrier ports lowers the cost of Verizon's network overall. A higher percentage of digital loop carrier ports is impossible, according to Verizon, because a significant number of its customers are served by copper loops that require analog ports. Verizon In. Br. at 52, citing Verizon Ex. 6 at 209-10.

Verizon proposes an average "line concentration" of three lines to one switch path. Line concentration ratios reflect the reality that not every line has its own switching path. The number of lines per switching path must decrease as the traffic on those lines increases; otherwise, switching paths become congested and calls are not completed. Line concentrations may also be viewed as reflecting the percentage of customers who use their telephones at the same time. Thus, a 3:1 line concentration means one-third of customers may be expected to use their lines at once. A 3:1 line concentration, which is Verizon's recommendation here, is reflective of a densely populated urban environment. In rural areas, in contrast, where call density is low, line concentrations may be as high as 10 lines to one switching path. In urban areas, a combination as low as two or three lines per switching path may be necessary. The lower the line concentration, the more expensive the network tends to be, as more switching infrastructure must be installed for each line.

The parties disagree on whether switching costs should be recovered as a fixed charge or a usage-based charge. Switching costs vary based on traffic volume/minutes-of-use generated by end users connected to the fixed cost ports. Verizon asserts that 38.64 percent of its switching costs are non-traffic sensitive, and thus should be recovered through flat-rate charges. The remaining 61.36 percent of switching costs are incurred based on traffic levels, therefore they should be recovered through minutes-of-use charges. Verizon contends that these costs should be recovered through usage charges, as these elements require augmentation as the level of usage on a line increases. Verizon In. Br. at 54, citing Verizon Ex. 8.

Finally, Verizon seeks recovery of software right-to-use fees. It incurs such fees as switches are upgraded with more and more advanced software. Verizon challenges any assumption that, in a forward-looking network, all switches should be assumed to be "new," rather than "growth." In any case, Verizon argues, even "new" switches ultimately need to be grown or upgraded, making software right-to-use ("RTU") fees inevitable, and therefore justly recoverable in the provision of telecommunications service.

2. AT&T

AT&T stresses the need to employ forward-looking switch discounts if accurate forward-looking switching costs are to be achieved. AT&T bases its recommended switch discounts on an FCC analysis of switching costs. AT&T points out that the FCC developed switch prices for the years 1989 through 1996, including

the price of any switch that was new or less than three years old at the time of the survey. Further, AT&T concludes that, because the FCC study employs enough switches to meet the reasonably foreseeable demand for those switches over their economic lives, there is an upper limit on the cost of switches in the FCC's study. AT&T asserts that limit would keep Verizon's total switching costs in line with the Company's real needs.

AT&T challenges Verizon's switch discount on several grounds. First, AT&T claims that basing switch costs on Verizon's actual year 2000 discount contradicts Verizon's other assumptions. Although use of a year 2000 price constitutes a theoretical repurchase of all switches in that year, Verizon nonetheless relies primarily on "growth" rather than "new" switch discounts. "Growth" switches, however, are installed as needed, not all at once. Further, focusing on a single year, according to AT&T, ignores forward-looking costs in favor of one year that is likely not representative of long-run expenses.

AT&T also points to several characteristics of Verizon's switch costs that it claims are illogical. For example, because Verizon has replaced outdated analog switches with digital switches, AT&T claims that Verizon has already benefited from switch discounts that it now wishes to ignore. AT&T's summary criticism of Verizon's analysis of proposed switch costs, however, is that Verizon is attempting to substitute the high short-run costs of “growth” switches for the lower long-run costs it would incur for “new” switches.

AT&T challenges Verizon's conclusion that a significant percentage of its switch costs are traffic-sensitive. Whether Verizon's switches are traffic-sensitive or not affects how Verizon recovers the cost of its switches. It is not processing capacity, AT&T claims, but exhaustion of the number of ports, that limits the usefulness of a switch. In fact, according to AT&T, switch usage in comparison to overall switch capacity is very small. AT&T/WorldCom Recurring Panel Reb. T./AT&T Exb. 31 at (CPR) 92-93. In short, AT&T claims that Verizon's switches will not exhaust as a result of increasing call processing, meaning that Verizon's switch costs are not essentially traffic-sensitive. AT&T therefore reduces to 24 percent the percentage of switch costs recoverable through usage-sensitive rates.

As to Verizon's RTU expenses, AT&T objects to the Company's use of 1999 RTU expenses, because RTU expenses in that year were significantly higher than RTU expense in other years. That was so, according to AT&T, because 1999 expenses were the result of expenses capitalized to comply with Federal Accounting Statement of Position 98-1, "as well as a one-time payment to bring software current, and other one-time software buyouts." AT&T/WorldCom In. Br. at 77.

3. WorldCom

WorldCom proposes a flat rate rather than a minutes-of-use rate for cost recovery on Verizon’s switches. WorldCom argues that a flat rate is appropriate because “the cost of switching is overwhelmingly non-traffic sensitive.” WorldCom asserts that the

primary driver of Verizon's switching costs is the number of Verizon switching ports, WorldCom In. Br. at 2, and that Verizon's costs are primarily capacity related. *Id.* Therefore, in WorldCom's view, a per minutes-of-use cost violates the principle of cost causation by not reflecting how switch costs are actually incurred. *Id.* WorldCom also objects that Verizon's proposed usage-based rates impose charges in both peak and off-peak periods. Since WorldCom claims that Verizon essentially incurs no off-peak costs, WorldCom asserts that Verizon is thus compensated for costs not incurred.

4. People's Counsel

People's Counsel strenuously argues that use of growth discounts in calculating Verizon's switch costs is counter to TELRIC requirements. People's Counsel argues that "add-ons" to existing switches not only receive a smaller discount than "new" switches, but also do not fit the needs of a forward-looking and increasingly digital network as well as "new" switches do. If, however, "growth" switch discounts are included in calculating switch costs, People's Counsel recommends that the discounts be increased to account for the purchasing power Verizon wields as the largest ILEC in the nation.

People's Counsel would also concentrate recovery of reciprocal compensation costs in the cost of the originating minute-of-use for local switching. People's Counsel reasons that reciprocal compensation costs are based only on the minutes-of-use

processed through a switch, and should therefore not be spread over all UNEs.

5. Staff

Staff asserts that Verizon consistently overstates switching costs in its cost studies, that Verizon uses an unacceptable "tops-down" methodology to analyze switching costs, and that Verizon uses inappropriate switch discount data. Staff therefore requests that Verizon be required to rerun its switching usage cost model using a "bottoms-up" costing methodology, and employ Maryland-specific switch discounts and an 80 percent switch utilization factor.

Staff objects to Verizon's "tops-down" approach to figuring switching costs because it is not only untried in Maryland, but because it begins with existing costs rather than with zero costs like the "bottoms-up" method. Further, Staff points to a Commission finding in Case No. 8763 that the FCC's "bottoms- up" approach ensures that costs arrived at are direct costs as opposed to embedded costs. Staff In. Br. at 76, citing Commission Order No. 76787 at 14-15. It is direct costs, and not the embedded costs, that Staff claims may be recovered in a TELRIC-compliant network.

Staff also objects to Verizon's use of a region-wide switch discount factor that Staff claims primarily includes "growth" rather than "new" switch discounts, thus resulting in higher switch costs overall. To capture the larger "new" switch discounts, Staff proposes that the investment data fed into

Verizon's switching cost model reflect the discount that was applied when the switch was purchased, thus capturing the significant discount customary for "new" switches.

> Staff challenges Verizon's 60 percent assumed utilization rates for switch processors as too low for an efficient forward-looking network. Verizon has stayed with the 60 percent switch processor utilization adopted by the Commission in Case No. 8731, Phase II.

Since Verizon's response to Staff's data request suggested to Staff that Verizon is making greater use of its switches than in past years, Staff recommends an 80.6 percent utilization factor for trunk-side switches and an 82.0 percent utilization factor for line-side switches.

Staff recommends increasing Verizon's "minutes-of-use days" from five to six. This change reflects the reality that usage of Verizon's network is not confined to weekdays or peak business hours. The effect of the change would be to reduce Verizon's average minutes-of-use, which in turn reduces the cost of network usage to the CLEC community.

Staff questions the need to increase the rate for switch ports that serve "plain old telephone" ("POTs") customers by 28 percent, from the current $1.895 to $2.64. Staff contests the increase on the grounds that telecommunications is a declining cost industry, a fact that negates any need to increase port costs.

6. Commission Decision

The Commission concludes that Verizon’s proposed switch processor utilization rate of 50 percent is appropriate in a forward-looking environment and reflects forward-looking usage levels. However, the Commission agrees with AT&T/WorldCom that digital switches used to replace analog switches should receive a "new" switch discount, and that Verizon's switch costs going forward should reflect that "new" switch discount rather than a "growth" switch discount.

In the final analysis, the Commission is constrained by use of Verizon's costing model. Verizon's model does not permit separate discounts for "new" and "growth" switches. However, the model does allow for the selection of Maryland-specific numbers for Nortel and Lucent switches. The record includes a significant range of switch discounts. The Commission adopts 90.0 percent for Nortel switches and 66.0 percent for Lucent switches. The Commission concludes that these percentages reasonably approximate the switch discounts Verizon will receive in a forward-looking environment. In each instance, these percentages are approximately **<Begin Proprietary>** *** **<End Proprietary>** percent above the Maryland-specific data supplied by Verizon. These changes are to reflect some adjustment for Verizon’s inappropriate use of the "tops-down" methodology.

The Commission will allow the use of Verizon's "tops-down" methodology in this case. That decision, however, applies only to the present case. The Commission is very concerned that

use of the "tops-down" methodology obscures the fact that this methodology includes significant embedded costs. Unless the Commission can be assured that no such embedded costs appear in the "tops-down" methodology, the Commission in future cases will not hesitate to adopt the more transparent "bottoms-up" analysis.

The Commission recognizes that technological advances require software upgrades, and that Verizon is obligated to pay RTU fees as it purchases software. Verizon's proposed RTU fees represent the Company's annual switch software expense and are based on historical expenditures for the years 1999 and 2000 and forecasts for 2001 and 2002. According to AT&T, the 1999 expenditure is significantly higher than other years because of capitalized expenses to comply with the Accounting Statement of Position 98-1, in addition to certain one-time payments. AT&T also argues that the RTU fees should be included in the port charge as a non-traffic-sensitive cost. The Commission finds AT&T's arguments compelling and determines that 1999 data should be eliminated from the RTU fees, and that the RTU fees should be moved to a flat rate port charge, as generated by the model.

As to switching costs, the Commission is persuaded by Verizon's argument that there is in fact a cost involved in switching calls, and that there is a relationship between those costs and call volumes. Therefore, the Commission rejects AT&T's and WorldCom's arguments to significantly reduce or nearly eliminate the percentage of switching costs recoverable through usage-sensitive rates, and determines that minutes-of-use charges

are appropriate. Thus, the Commission adopts the switching minutes-of-use charge that is generated by the model inputs, as modified by this Order.

Verizon proposes a line concentration of 3:1, while Staff proposes 6:1. The Commission views Verizon's proposal as too conservative, given that GR303 can take some load off of switches, and will allow remote terminals to operate at higher concentration ratios than other types of DLC. In addition, the Commission views a higher line concentration ratio as appropriate, based on the State's demographics. Based on the fact that the Commission adopts 50 percent GR303 in this Order for Verizon's network, the Commission finds that it is reasonable to conclude that a 4:1 line concentration ratio is appropriate.

Finally, with respect to the issue of minutes-of-use days, the Commission is persuaded by Staff's arguments that the number of days in Verizon's recurring model should be increased from five to six. As indicated by Staff, the Commission finds that the level of weekend minutes-of-use traffic is increasing, a fact that should be reflected in the resulting rates. Thus, this fact should be incorporated in the resulting rates and the Commission adopts 305 days as the appropriate input.

D. Operations Support System ("OSS")

1. Verizon

Under this heading Verizon seeks to recover the costs of providing CLECs access to operations support system ("OSS")

functions. "Access to OSS" costs are essentially costs of technical provisioning and maintenance necessary to permit CLECs to use Verizon's network. Verizon argues that because Access to OSS charges are a UNE, the rates for Access to OSS must recover Verizon's costs in order to be consistent with governing Federal law. Verizon In. Br. at 56, citing 47 U.S.C. § 252(d)(1) and FCC *Local Competition Order*, ¶ 314. Thus, Verizon proposes to apply a recurring Access to OSS charge of $0.83 per month, per line to all UNE loops, consisting of a "specific Verizon East–South only" component and a "general Verizon-East combined" component.

Verizon argues that CLECs should pay all Access to OSS costs, because Verizon incurs such costs only because it is required to permit CLECs to access its network. Therefore, in Verizon's view, CLECs are the only "cost causers" of Access to OSS costs, and should rightly bear such costs. Verizon claims that in this case it is attempting to recover from CLECs only the amount of OSS costs generated in Maryland.

2. AT&T/WorldCom

AT&T/WorldCom argues that if the Commission authorizes any explicit charge for Access to OSS costs, that charge should be a "competitively neutral" charge on all telecommunications users in Maryland. The Access to OSS charge is a cost of transitioning to a competitive environment, from which all customers benefit. Since all customers benefit, all customers should pay costs leading to a competitive industry. According to AT&T/WorldCom, an eight cent per line, per month charge would be ample, over a ten-year period,

to recover all of Verizon's Access to OSS costs. AT&T/WorldCom would also remove "the costs of maintaining and improving OSS" from costs to be recovered under the Access to OSS heading. Believing OSS maintenance and repair costs to be inflated, AT&T/WorldCom proposes that Verizon recover these costs through normal cost factors rather than through a special OSS charge paid by CLECs.

3. Staff

Staff agrees with AT&T/WorldCom that Access to OSS costs should not be recovered from CLECs. Staff goes further, arguing that such costs should not be recovered from any Maryland customer at this time. Staff takes this position because it has concluded that Verizon's OSS procedures have not been tested in Maryland. Therefore, Staff witness Molnar assigns no special costs to OSS. Further, Staff argues that Verizon's OSS cost studies do not comply with Commission directives in Case No. 8842, are steep barriers to entry, and are not forward looking. For example, Staff points to Verizon's attempts to recover costs of the electronic Communications Gateway that has been discontinued since 1999. Staff concludes its analysis of Verizon's Access to OSS request by urging that the Commission, if it does permit recovery of Access to OSS costs, allocate only Maryland costs to Maryland customers.

4. Commission Decision

The Commission concludes that Access to OSS costs are costs of doing business and that Verizon is entitled to recovery of reasonable business costs. The Commission supports the recovery of Access to OSS costs from the CLECs, the direct cost causers, rather

than all Maryland customers. Further, the Commission finds that Maryland CLECs should only be responsible for Maryland costs for Access to OSS. The Commission agrees with AT&T/WorldCom that the Access to OSS rate is inflated, and therefore adopts a lower monthly recurring charge. The Commission finds that in order for CLECs that operate in Maryland to pay their appropriate share of Access to OSS costs, just the "specific Verizon-East South only" component of Verizon's rate should be used to determine the charge. The Commission determines that in order to develop an appropriate rate based on the record the Commission must develop its own methodology. Thus, the Commission bases its decision on the number of lines that Verizon anticipates CLECs will obtain from Verizon, on average, over the next 10 years.

Based on Verizon's conclusion that there will be 732,238 OSS lines requiring OSS access, on average, over the next ten years, the Commission accepts the Verizon projected Verizon-East States only component for OSS cost estimate as a reasonable estimate. Using Verizon's numbers, the Commission calculates a rate of $1.43 per CLEC line, per year, which equates to $0.1189 per CLEC line, per month. The Commission rejects the overall Verizon methodology, but is persuaded that Verizon should have some adjustment for ongoing maintenance. The Commission, therefore, next adds 15 percent of that number, or $0.0178 per CLEC line, per month for maintenance. Thus, the Commission determines that its own methodology will be substituted for the methodology originally

proposed by Verizon. This results in a total OSS charge of $0.1367 per CLEC line, per month.

E. IOF Costs

Interoffice facilities include, *e.g.*, trunks between two switches, and SONET rings, which provide an optical or electrical interface for transmission products provided by different vendors. Verizon's cost model includes a fixed cost component for electronics equipment, such as multiplexers and digital cross-connect systems. It also includes mileage-sensitive costs for the fiber, structure, and intermediate electronics between the wire centers. Verizon assumes, for TELRIC purposes, six nodes per SONET ring, which it claims is forward-looking. AT&T/WorldCom adjusts this to four, which it claims is the current Maryland average. AT&T/WorldCom claims that if six-node SONET rings were efficient, Verizon would employ them more often in its network. On this issue, the Commission favors Verizon's position, as the future network may require more nodes per ring than at present. AT&T/WorldCom also proposes excluding the costs of digital cross-connection from IOF costs, and reducing Verizon's EF&I factor for transmission equipment.

The Commission deems that Verizon’s proposed cost of digital cross-connect is adequate; however, the Commission does adjust the EF&I factor, as previously adopted herein.

F. Poles and Conduits

AT&T/WorldCom maintains that Verizon's conduit and pole investments should be rejected. Since Verizon's pole and conduit costs are both derived from a historical average of Verizon's costs for 1995 through 1999, AT&T/WorldCom claims that these costs cannot truly reflect forward-looking costs, and therefore are not TELRIC compliant. AT&T/WorldCom favors a pole investment based on a "scorched node" theory developed by the FCC. Specifically, AT&T/WorldCom assumes that all poles will be replaced at the same time, thus ensuring maximum economies of scale. Thus, AT&T/WorldCom would have the Commission adopt an investment per pole of $417.00, which it contends is more forward-looking than Verizon's proposed cost of $975.00 per pole. The Office of People's Counsel recommends a pole cost of $503.24. People's Counsel bases this number on a presentation to the FCC by Bell Atlantic. People's Counsel adjusted this number to year 2001 dollars by using TPI inflation factor obtained from Verizon.

Both AT&T/WorldCom and People's Counsel recommend costs significantly less than the $975.00 pole cost Verizon supports in this proceeding. However, the Commission nonetheless gives more weight to Verizon's conclusion than to those of other parties who do not install as many poles in Maryland as Verizon. The Commission also rejects AT&T/WorldCom's proposal that, in a truly forward-looking network, pole costs be based on the assumption that all poles will be replaced at one time. The Commission does not agree that in a forward-looking network such an extreme assumption

is required. The Commission has carefully considered the record and determined that $850.00 is reasonable. The Commission bases its conclusion on the fact that Verizon's methodology included some embedded costs, which led to some over-recovery, and as such an adjustment to exclude any inappropriate embedded costs is required.

The Commission adopts Verizon's proposed conduit fill of 46 percent. The Commission recognizes the very high cost of installing new or additional conduit. AT&T/WorldCom objects to Verizon's 46 percent fill factor on the basis that it is modeled on an embedded network. The Commission is not persuaded that this general objection justifies an increase to the fill percentage used by Verizon. Therefore, the Commission accepts Verizon's rationale that conduit with 46 percent capacity fill is appropriate in a forward-looking network.

G. Daily Usage File ("DUF")

The Daily Usage File ("DUF") is an optional billing service offered by Verizon that provides CLECs with the detailed records of their customers' intraLATA local and toll usage. According to Verizon, the billing records provided to the CLECs are formatted in Telcordia-standard Exchange Message Record ("EMR"). Verizon Recurring Panel Dir. T. at Exb. N/Verizon Exb. 10. Each call is recorded as a "message." Verizon proposes several recurring and non-recurring DUF charges for recording and transmitting the DUF messages. The CLEC may elect to receive the

record via Network Data Mover ("NDM")[21]; magnetic tape/cartridge, or Centralized Message Data System ("CMDS") via a third-party company. Verizon proposes the following recurring rates:

Daily Usage File Recurring Rates	
Cost per Tape	$13.02
Network Data Mover (cost per message)	$0.000125
Message Recording (cost per message)	$0.001520
DUF Transport	
9.6 kb	$30.39
56 kb	$177.28
256 kb	$810.47
T1 Port	$4,888.12
DUF Transport (Maintenance)	
9.6 kb	$0.49
56 kb	$2.88
256 kb	$13.18
T1 Port	$79.49

Additionally, Verizon proposes an NRC for each of the following:

Daily Usage File Non-Recurring Rates	
Data Transmission (CMDS and Tape)	$58.85
Line Installation	$58.85
Network Control Program Coding	$58.85
Port Set-Up	$10.30

1. Verizon

Verizon states that its costs include computer processing usage time, computer termination maintenance, salary and wages of personnel handling the data transmission functions, software maintenance, and disk maintenance. Verizon indicates that it has provided sufficient justification in its cost study back-up information outlining the precise number of employees, their responsibilities, their job function codes, the percentage of time

[21] Currently, the NDM is called ConnectDirect.

spent dealing with DUF, and even the states in which they perform the work. Verizon Recurring Panel Surreb. T./Verizon Exb. 5 at 231.

Verizon also argues that the relationship between its current "TELRIC cost study and rates filed and approved several years ago at a time of demand uncertainty in a nascent market bears no weight in the determination of a just and reasonable rate *today*." *Id.* at 229 (emphasis in original). Verizon indicates that its actual demand levels were much less than those it forecast in 1996. The Customer Billing Organization ("CBO") message demand, which has been criticized by AT&T/WorldCom, represents the total DUF demand for the South, not just the error messages. Verizon argues that the DUF product in Verizon-East-North is distinct from that same product in Verizon-East-South, so only the South demand is appropriate for use in calculating the relevant costs, demands and rates in Maryland. Verizon indicates that the number of messages transmitted using the NDM is not comparable to the number of CBO messages, as the NDM handles more messages than just the types associated with the DUF. According to Verizon, the NDM is used for exchange access services from Interexchange Carriers ("IXCs"), including the transmission of Access Service Requests ("ASRs") and usage information to the IXCs. Further, Verizon reiterates that not all CLECs utilize its DUF product.

Finally, in response to criticisms that the "CLEC Labor Support Charge" results in double recovery, Verizon claims that DUF is a product that makes use of general-purpose computers. Verizon

states that the investment associated with these computers was subtracted prior to development of the support investment carrying costs used in Verizon Other Support and Common Overhead factors. As a result, Verizon argues that the costs associated with DUF have been removed from the ACF development and there is no double recovery.

2. AT&T/WorldCom

AT&T/WorldCom objects to only one specific DUF rate, the recurring, per-message "Message Recording" charge. AT&T/WorldCom argues that the rate proposed by Verizon is significantly higher than the current rate of $0.000267 per message. AT&T/WorldCom Recurring Panel Reb. T./AT&T Exb. 31 at 161-62. AT&T/WorldCom states that "[i]f one assumes approximately 200 messages per line, per month, this charge would add about $0.30 per line, per month to the cost of a loop." *Id*. AT&T/WorldCom argues that 99 percent of the Message Recording rate is caused by Verizon's inclusion of the CLEC Labor Support Charges, which AT&T/WorldCom claims are already being recovered through Verizon's annual cost factors and have not been justified by Verizon. Accordingly, AT&T/WorldCom claims that Verizon has miscalculated the charges associated with each DUF message, and that the inclusion of these costs in the resulting rate would provide Verizon with double recovery of those costs. AT&T/WorldCom indicates that although Verizon intends to apply the DUF Message Recording charge to each message, Verizon did not use the total message demand to which its charge would be applied in its calculations. Rather, AT&T/WorldCom states that Verizon spread

the support costs over its projected CBO message demand, which AT&T/WorldCom claims is considerably less than the total demand. *Id*. AT&T/WorldCom concludes that any DUF per message charge will probably result in discriminatory, above-cost prices for all UNE and resale usage. As such, AT&T/WorldCom argues that the Commission should assume that this cost is already recovered in the switching UNE calculations and should reject Verizon's proposed rate.

3. Commission Decision

The Commission has reviewed this matter carefully. With respect to the DUF rates proposed by Verizon, to which no party objects, the Commission hereby adopts these rates in accordance with the other modifications made to the various models within this Order. As for the Message Recording charge, the Commission is persuaded by AT&T/WorldCom that the CLEC Labor Support charges are already recovered through Verizon's ACFs, and, further, the Commission has made no adjustments to the labor rates utilized by Verizon. Thus, in order to eliminate double recovery, the Commission directs that the CLEC Labor Support charges be removed. Therefore, based upon this finding and the application of the other modifications to Verizon's standard recurring models, the resulting rate for Verizon's DUF Message Recording will be $0.00001 per message.

H. Line Identification Database and Caller Name Delivery

Verizon's Line Identification Database ("LIDB") cost study is composed of four components: the LIDB database system itself; the DBAS, which is the database input system for the LIDB; the DEC, which re-formats service order files to make them compatible with DBAS; and the costs associated with Fraud Prevention Center ("FPC") interfacing. AT&T/WorldCom Recurring Panel Reb. T./AT&T Exb. 31 at 166. AT&T/WorldCom objects to Verizon's mechanism for recovering the costs of the Alternative Billing Service ("ABS") interface with the Fraud Prevention Center. AT&T/WorldCom submits that it is only the ABS that interfaces with the FPC queries. Verizon has correctly assigned FPC costs to ABS queries, according to AT&T/WorldCom, but then improperly spreads those ABS costs over all other LIDB queries "thereby significantly overstating the cost per query." *Id.* at 167. AT&T/WorldCom also develops a cost for Verizon's Caller Name Delivery ("CNAM") function that omits all costs associated with the FPC. Verizon states that it separately calculates the cost of an LIDB query associated with ABS and the cost of a non-ABS LIDB query, including CNAM. *See*, Verizon Recurring Panel Surreb. T./Verizon Exb. 5 at 276.

The Commission has considered the issues raised by AT&T/WorldCom and adopts Verizon's revised rate. The modification that Verizon makes to its cost study and presents during the surrebuttal round of testimony addresses most of AT&T/WorldCom's concerns. The Commission is not persuaded that the cost study

requires additional changes. Also, the Commission notes that the directives ordered herein pertaining to Verizon's cost models, in general, will further affect the final rates for these services.

I. Dark Fiber

Dark fiber is unused fiber or installed fiber optic cable not carrying a signal. AT&T/WorldCom Recurring Panel Reb. T./AT&T Exb. 31 at 168. CLECs are able to lease dark fiber from Verizon. Once leased, the fiber becomes "light" when the CLEC places its own electronics and signals on the fiber. AT&T/WorldCom claims that Verizon has put so many limitations on a CLEC's right to lease dark fiber, and so many definitional limitations on dark fiber itself, that, as a result, "dark fiber is a very different element from an unbundled loop or unbundled interoffice transport." *Id*. at 170. In short, AT&T/WorldCom argues that Verizon has so limited the CLECs' use of dark fiber that Verizon should only be able to recover the operations and maintenance costs of dark fiber, not investment costs, as it does for loops. Investment costs include costs for structure supporting the fiber and placement of the fiber. *Id.* at 171. Verizon recovers those costs, among others, through a fiber strand utilization factor.

Verizon counters that it only recovers the investment costs the CLECs challenge "during the time period in which the CLEC actually uses the dark fiber." Verizon Recurring Panel Surreb. T./Verizon Exb. 5 at 373. Verizon also denies AT&T/WorldCom's assertion that the cost of dark fiber is actually recovered through

use of Verizon's fill factor. Verizon states that the spare fiber facilities whose costs are recovered through the fill factor do not include unbundled dark fiber and, therefore, Verizon's dark fiber utilization factor does not double-recover dark fiber costs. Verizon rejected the CLECs' arguments relating to limitations on the definition and use of dark fiber as irrelevant to the cost recovery issues.

The Commission agrees with Verizon that it should recover reasonable investment as well as operations and maintenance costs related to dark fiber. The existence of dark fiber means that Verizon does incur costs for support structure, as well as placement of the fiber. Verizon recovers these costs only from CLECs using its dark fiber. The Commission also agrees with Verizon that the definitional and access issues the CLECs raise are not clearly connected to Verizon's dark fiber costs. Therefore, the Commission finds for Verizon on recovery of its dark fiber costs.

VI. NON-RECURRING COSTS

A. Verizon and AT&T/WorldCom's Non-Recurring Cost Models in General

1. Verizon's Model in General

Verizon explains that its Non-Recurring Cost Model ("Verizon NCRM") calculates the costs of one-time activities performed by Verizon to process and provision CLECs' requests for UNEs. Verizon classifies as non-recurring those costs that are for

equipment and service dedicated to a particular CLEC. Non-recurring costs are developed essentially as the product of labor rates and work times, plus various adjustments, including those for automation and mechanization, in order to achieve TELRIC-compliant rates. Thus, actual non-recurring costs vary primarily as the labor and work time inputs vary. There are at least 130 separate non-recurring rates for which Verizon has calculated individual work times. Verizon relies on a time study by Andersen Consulting for some cost of service rates, but primarily utilizes survey questionnaires, answered by employees and reviewed by Verizon experts, as the basis for its non-recurring work time calculations.

Verizon's NRCM assumes the same technology mix as Verizon's recurring cost models. Verizon Non-Recurring Panel T. at 15. Verizon asserts that its NRCM is TELRIC compliant and is based on appropriate procedures and achievable technology. For example, Verizon argues that those NRC manual work times, which were developed through a series of employee survey questionnaires reviewed and adjusted by supervisory personnel and subject matter specialists, are realistic, even though they do not arise from an actual time and motion study.

Work times are central to the correct calculation of NRCs. Manual intervention, "fallout" from automated processing in UNE ordering, normally increases work times. Verizon claims its assumption that up to 24 percent of CLEC UNE orders must be manually processed by its staff is based on its experience, including its experience with the need to manually confirm large

and small CLEC orders. Verizon also maintains that the CLECs themselves have requested significant involvement by Verizon staff in order processing, thus explaining, in part, the frequency of "fallout" from a strictly automated UNE ordering and installation process. *See,* Verizon NRC Panel T. at 53. Verizon argues that a series of organizations -- the Telcom Industry Services Operating Center ("TISOC"), Regional CLEC Coordination Center ("RCCC"), Recent Change Memory Administration Center ("RCMAC") and the Mechanized Loop Assignment Center ("MLAC") -- all exist to perform ordering, wiring, and provisioning services for the CLECs. *Id.* at 57.

Verizon urges that the wholesale-related costs of the above-listed work groups be recovered via a one-time charge. CLECs argue, instead, that these costs are more appropriately recovered through recurring rates. Verizon points out, however, that under a recurring payment scheme, Verizon could incur a one-time expense to service a CLEC, then could lose the CLEC as a customer and lose that CLEC's recurring payments as well. Therefore, in many cases, Verizon rejects the CLECs' arguments for recovery of these costs through recurring payments. Verizon also rejects the assertion that CLECs should not have to pay the full cost of equipment installation necessary to serve them, if other CLECs could use that same equipment. Verizon maintains that,

> If a carrier incurs a one-time cost caused by the connection of service but must recover that cost through a recurring charge, then it bears the risk that it will lose the customer and not recover that one-

> time cost. The requesting CLEC itself should bear that risk; otherwise, it will not fully consider the long-run costs of serving customers, will have incentive to over-expand, and will shift risks of its own business decisions to the ILEC.

Verizon In. Br. at 83.

2. AT&T/WorldCom

AT&T/WorldCom proposes its Non-Recurring Cost Model ("NRCM") as an alternative preferable to Verizon's.[22] AT&T/WorldCom concludes that its model is more forward-looking and efficient than Verizon's, and thus minimizes UNE costs. The AT&T/WorldCom NRCM, according to AT&T/WorldCom, is compliant with the FCC's TELRIC requirements, while Verizon's NRCM is not TELRIC compliant because it is based on work tasks, work times, and salary rates derived from an embedded network. In addition to pointing out the strengths of its own NRC model, AT&T/WorldCom emphasizes the weak points of Verizon's proposed model. AT&T/WorldCom claims not only that Verizon's NRCM is based on backward-looking assumptions and embedded costs, but that the work-time survey questionnaires, on which Verizon based many order processing costs, were also faulty. Tr. at 518. Indeed, AT&T/WorldCom argues that Verizon's work-time surveys were tainted by Verizon's revelation to its employees that the purpose of the questionnaires was specifically to develop charges for their CLEC competitors. Tr. at 517-519. Therefore, according to AT&T/WorldCom, Verizon's non-

[22] Covad Communications, Inc and Network Plus, Inc. joined AT&T and WorldCom in sponsoring the AT&T/WorldCom Non-Recurring Cost Model.

recurring costs include more expensive manual processing than modern telecommunications businesses and telecommunications networks normally employ. Thus, according to AT&T/WorldCom, Verizon's study appears to have been designed to justify higher non-recurring costs than necessary. In addition to objections on technical grounds, AT&T/WorldCom argues that NRCs should be disfavored, because they are barriers to entry for Verizon's competitors.

AT&T/WorldCom assumes that a well-designed non-recurring cost model should reflect the start-to-finish process by which one CLEC requests UNEs from Verizon, and Verizon fulfills that request. Services and activities usable by any other CLEC, now or in the future, must not be purchased through the mechanism of a non-recurring cost. AT&T/WorldCom believes its NRCM fulfills that requirement. AT&T/WorldCom claims to have designed its NRCM to produce costs associated with both analog and digital loops melded together, reflecting the Verizon network mix in its entirety. Walsh Direct T. at 8, 30. AT&T/WorldCom also asserts that costs arising periodically within this network must be treated as recurring rather than non-recurring costs, and be paid for over time rather than all at once. Treating actual recurring costs as non-recurring costs, according to AT&T/WorldCom, forces the first customer ordering a UNE to fully pay costs for services and activities that future wholesale customers will also use.

To avoid unfair allocation of costs, AT&T/WorldCom excludes certain expenses from the non-recurring cost category

altogether, *e.g.*, capital costs; capital assets such as OSS, computers, outside plant or plug-in cards; certain data collection costs; and ongoing maintenance costs incurred to keep the network functioning over time. In short, AT&T/WorldCom treats as recurring, rather than non-recurring, any costs that Verizon could use to serve CLECs other than the initial purchaser.

In addition to being limited to the needs of a single CLEC, AT&T/WorldCom also requires that Verizon's non-recurring costs "represent the same forward-looking network element technologies that were used within the recurring cost model." Walsh Dir. T./AT&T Exb. 45 at 13. To be forward-looking, according to AT&T, a non-recurring cost model must incorporate automated and mechanized processes whenever possible, thus minimizing "fallout." AT&T/WorldCom argues that Verizon’s fallout rate is too high for a forward-looking environment.

In analyzing the causes of "fallout," AT&T/WorldCom isolates four categories: database synchronization errors, network element denial, communication errors, and synchronization errors. In each of the four cases, AT&T/WorldCom sees the problem as arising in Verizon's system, either because of an inadequate Verizon database, or because of the failure of Verizon communication paths. Therefore, AT&T/WorldCom views correction of the problems causing fallout as necessary Verizon system maintenance, which should be treated as a recurring rather than a non-recurring cost. The only instances in which AT&T/WorldCom would treat fallout as a non-recurring cost fully payable by a CLEC

would be "in the unlikely event that the CLEC is directly responsible for the provisioning process stoppage." Walsh Dir. T./AT&T Exb. 45 at 18. Therefore AT&T/Worldcom's NRCM allows for "fallout" in only two percent of UNE orders submitted, which it claims is the approved rate in other states, such as Illinois, Massachusetts, Connecticut, and Minnesota.

AT&T/WorldCom urges that the expense of any field installation activity that would benefit Verizon in the future should be recovered as recurring. For example, AT&T/WorldCom considers the cost of installing field cross-connects to be a recurring cost, as the splicing of distribution cables to feeder cables allows a succession of CLECs to use Verizon's network. The first CLEC to order the cross-connect should therefore not be charged the entire cost of the splice, according to AT&T/WorldCom. AT&T/WorldCom Rep. Br. at 37.

AT&T/WorldCom objects to treating most line conditioning costs as NRCs. In the CLECs' view, a network that adheres to TELRIC standards requires minimal, if any, line conditioning. Therefore, AT&T/WorldCom concludes that Verizon seeks recovery of more line conditioning costs than a forward-looking network will require. Further, AT&T/WorldCom sees line conditioning as preparing Verizon's system for use by many CLECs. Thus, in AT&T/WorldCom's view, line conditioning costs should be treated as recurring or ongoing costs, chargeable to subsequent users as well as to the initial user of the system.

AT&T/WorldCom claims that its proposed non-recurring cost model incorporates the features of its ideal model, as discussed above, and avoids the excessive one-time or non-recurring costs of Verizon's NRCM. The actual methodology AT&T/WorldCom uses to develop its model involves identifying activities, performance times, wage rates, and the probability that a given activity will occur.[23] The results of AT&T/WorldCom's calculations are then adjusted by its proposed eight-percent factor for variable overhead expenses. AT&T/WorldCom determines the work times and procedures based on "the consensus of a panel of experts within the telecom industry." Walsh Dir. T./AT&T Exb. 45 at 27.

3. People's Counsel

People's Counsel focuses almost exclusively on Verizon's recurring rather than non-recurring costs, and therefore does not specifically discuss the Verizon and AT&T/WorldCom NRCM models. OPC's comments regarding the parties' cost models summarized earlier in this Order appear to apply to both the recurring and non-recurring cost models. People's Counsel concludes that using Verizon's NRCM with varying inputs is the appropriate means of establishing these rates.

4. Staff

Staff objects to Verizon's "inability or unwillingness to perform the time and motion study for line sharing installation

[23] AT&T's formula is:

$$\frac{\text{Activity cost} \times \text{Activity Probability} \times \text{Time (Min.)} \times \text{Rate (\$/Hour)}}{60}$$

as directed by the Commission." Staff In. Br. at 44-45. In fact, Staff argues that both Verizon's and AT&T/WorldCom's NRC methodologies are "replete with ... flaws." *Id.* Staff faults both parties' reliance on subjective estimates of work times adjusted by labor rates, rather than on the Maryland Carrier-to-Carrier Guidelines Performance Standards and Reports. Staff states that it reviewed the work time survey questionnaire forms at Verizon's offices, but "was unable to determine how the estimated activity times were transposed into the NRC model." *Id.* at 46. Further, Staff claims that Verizon's NRCM is only partially Maryland-specific, as labor rates for many functions, as well as for regional operations centers, are based on either regional or non-Maryland data. *Id.*

Despite alleging significant flaws, Staff nonetheless uses Verizon's NRCM as the basis for its own NRC proposal. Staff adjusts Verizon's model by using Staff's recommended weighted-average cost of capital, as well as the other adjustments Staff proposes in this case. Staff asserts that Verizon's proposed NRC model calculates a total cost of $2,036 for NRCs associated with a "typical" CLEC order. Staff In. Br. At 48, citing Staff Ex. 15. At Verizon's existing NRC rates, the same size CLEC order would result in a $4,625 charge. Staff therefore maintains that Verizon may well have been overcharging CLECs since 1998, when its existing rates were set. *Id.* at 48. Staff relies on Verizon witness Meacham's own testimony that, while Verizon's work time study extended into year 2000, the Company's UNE rates, set in Commission

Case No. 8786, are based on 1998 or 1999 results. Tr. at 562. Thus, even though Staff's recommended non-recurring rates are based on "the time estimates done by Verizon," these rates are lower than the rates that Verizon currently charges. Tr. at 1803.

Staff also bases its proposed reduction in Verizon's non-recurring costs on its conclusion that Verizon failed to provide the time and motion studies previously ordered by the Commission in Case No. 8842. While Staff and Verizon agree that the Commission only ordered time and motion studies for line sharing UNEs (*Id.* At 1804), they differ on the ramifications of that fact. As a consequence of Verizon's failure to comply with Commission Order No. 76852, and because most Verizon NRCs are based on an employee survey questionnaire methodology already rejected by the Commission in Case No. 8842, Staff recommends reducing all non-recurring labor times by 50 percent. However, Verizon argues that a 50 percent across-the-board reduction in labor times is unjustified, given that the Company was only required to do a time and motion study on the line sharing subset of UNEs. Verizon also contends that its use of 18 expert reviewers, rather than the one expert it employed in Case No. 8842, serves to cure these defects.

5. Commission Decision

The Commission has carefully reviewed the two proposed NRC models. While the Commission has concerns about the adequacy of both models, it is persuaded by the arguments of People’s Counsel and Staff that non-recurring costs should be developed based upon the Verizon-sponsored model, with modified inputs. The

AT&T NRCM has fewer inputs, thus providing fewer service choices and less sensitivity. Further, the AT&T/WorldCom NRCM is more difficult to employ than the Verizon NRCM. The Commission's decision is also based, in part, on the fact that Verizon's NRC model is significantly more comprehensive than AT&T/WorldCom's NRCM, thereby providing more general applicability to meet the service requirements of a broader range of CLECs. Further, Verizon's model also employs terminology used in both Case No. 8879 and its predecessor, Case No. 8842, thus adding to the consistency of the rates in review. Several issues from Case No. 8842 carry over to Case No. 8879, so an NRC model employing terminology common to both cases is the most useful to the Commission. The Commission further notes that Staff developed its recommended recurring and non-recurring rates based on Verizon's models, incorporating Staff's inputs.

Verizon asks the Commission to assume that up to 24 percent of UNE orders by CLECs will "fallout," to be handled by Verizon staffers. AT&T/WorldCom asserts that a fallout rate of only two percent is reasonable. All else being equal, CLECs will naturally pay lower non-recurring charges if the percentage of orders automatically processed is closer to two percent than to 24 percent. As Verizon testifies, the only time studies filed in this proceeding are studies developed for the Massachusetts and New York UNE proceedings.

The Commission notes that Verizon proposes a 15 percent, rather than a 24 percent, fallout rate in the Massachusetts UNE

proceeding, and a 25 percent fallout rate in New York. Both the Massachusetts and New York Commissions actually directed the parties to use a two-percent fallout rate. Given Verizon's Massachusetts proposal, this Commission would require a much more detailed and persuasive record than exists here to find that a 24 percent fallout rate is just and reasonable. Just as in Case No. 8842, the Commission finds Verizon's survey questionnaire method for determining fallout rates unpersuasive. Verizon's use of multiple experts to provide layers of adjustments to its surveys only increases uncertainty, as does Staff's inability to translate Verizon's survey results into specific UNE rates. The Commission also does not accept Verizon's position that the responsibility for fallout lies primarily with CLECs that order UNEs in a manner that requires Verizon staff intervention.

The appropriate fallout rate for Maryland will balance Verizon's capabilities with the CLECs' needs. In a TELRIC environment both Verizon and the CLECs face pressure to increase efficiency and productivity. The Commission, therefore, rejects Verizon's proposed 24-percent fallout rate, and adopts four percent across the board as a forward-looking just and reasonable fallout rate. While the Commission has a sufficient record to accept AT&T/WorldCom's conclusion that a two-percent fallout rate is appropriate, the Commission chooses a higher rate to acknowledge that the complex interconnection between and among competing entities may require some degree of involvement by Verizon's staff. The Commission notes that Verizon proffers a great deal of

Massachusetts data to support its position. While the Commission is not persuaded that 24 percent is appropriate, the Commission does acknowledge four percent as a more reasonable outcome than the two percent awarded in Massachusetts. Therefore, the Commission finds that permitting Verizon a four-percent fallout rate for non-recurring costs balances the interests of the parties, and is just and reasonable.

B. Work Times

Verizon developed work times used in its NRCM based upon survey questionnaires issued to its employees. It required specific employees to complete a survey questionnaire summarizing their work times for various tasks related to the purchase and provisioning of UNEs. Additionally, for a small subset of its workforce, the TISOC working group, Verizon employed Andersen Consulting to conduct a limited study of the work times specifically for that group. The survey questionnaires were then reviewed by the employees' supervisors, subject-matter experts, cost analysts, and statisticians, and then the resulting figure received an adjustment for forward-looking efficiencies gained through mechanization and automation. For some NRCs, no adjustment was applied since no automation is expected to occur. Verizon claims that the work times resulting from this process are not only accurate but also TELRIC compliant.

Verizon's proposed work times include assumptions that a significant number of UNE orders will not be able to be processed

automatically and will require manual handling. Since such handling is more resource intensive and expensive than automated handling, no adjustment was applied. Verizon has automated many ordering and provisioning functions, but states that certain very small or very complex orders may not be susceptible to automated processing and may require manual handling. Further, Verizon states that manual handling is necessary to rectify logical errors that are nonetheless in proper format.

The Company relies on employee survey questionnaires even though the Commission, in Case No. 8842, stated that such a method yields unpersuasive results. In this case, Verizon argues that it used 18 experts rather than one expert to review and adjust those times in response to the Commission's concern. Further, the survey questionnaire results are not specific to Maryland, but include data from New York, Massachusetts, and other locations.

The other parties to Case No. 8879 challenge the validity and usefulness of Verizon's work time survey questionnaires. AT&T/WorldCom concludes that Verizon's NRC cost survey reflects primarily embedded costs, because it is based on existing rather than forward-looking Verizon practices. Further, AT&T/WorldCom asserts that Verizon incorrectly weighted each employee response equally. AT&T/WorldCom argues that responses reflecting frequently performed tasks should have been weighted more than responses for operations seldom performed. AT&T/WorldCom also objects to the lack of documentation Verizon provides for its NRC work time study, and to Verizon's failure to remove survey

questionnaire response outliers in a more appropriate fashion. AT&T/WorldCom further objects to Verizon's use of the average or mean of employee work times rather than the median of those times, particularly as outliers were not removed appropriately. Use of the median, AT&T/WorldCom claims, would significantly reduce the distorting effects of inordinately high (or low) results. AT&T/WorldCom NRC Panel Reb. T./AT&T Exb. 47 at 84.

Staff joins AT&T/WorldCom in asserting that documentation supporting Verizon's activity times is inadequate. Specifically, Staff finds the documentation and reporting of Verizon's survey questionnaire results so unclear that Staff cannot determine how the activity times estimated on Verizon's survey questionnaire forms translate into Verizon's NRCM. Thus, the Commission Staff has been unable to determine how the reported work times resulted in the work times Verizon proposes as the basis for UNE rates in the present case. Overall, Staff believes Verizon's NRC costs are significantly overstated, compared to NRC costs in other states. Staff also stresses that Staff would reduce the Company's NRC costs by 50 percent across the board, thus bringing Verizon's NRC costs into line with such forward-looking costs elsewhere, and also providing incentive to Verizon to increase efficiency.

The work time component of non-recurring costs is among the most contentious NRC issues. Work times, with labor rates, plus certain adjustments, are the basis of non-recurring costs. The Commission, in Order No. 76852, in Case No. 8842, ordered

Verizon to perform "bonafide time and motion studies" to develop line sharing costs. 92 Md. PSC 126 (2001). The Commission ordered time and motion studies because it found costs developed by a subject matter expert giving opinion testimony as to conceivable task times "unpersuasive." The Commission also required that, among other things, the cost study: be based on Maryland-specific information; contain detailed testimony; identify individual components of the rate and the source of those component; be auditable; and be used in any further studies and/or cost models, including those provided for in Case No. 8879. Contrary to the Commission's Order, Verizon did not perform a time and motion study to determine line sharing or most other UNE costs in the present case. Verizon continues to rely substantially upon subject matter experts, and does not use Maryland specific data. In contrast to a time and motion study performed under strict time scrutiny, a written survey questionnaire leaves open the possibility that the survey results may be skewed. Additionally, of the thousands of individual work time responses, according to Verizon, its statisticians eliminated only two as being "outliers," thus calling into question Verizon's work-time calculations. NRC Panel Surrebuttal at 27.

The Commission shares the parties' concerns about Verizon's survey questionnaire method for determining NRC work times. Not least among the Commission's concerns is Verizon's disregard for the Commission's Order, in Case No. 8842, directing it to perform a time and motion study on line sharing issues.

Further, as noted by Staff, the apparent difficulty of translating survey questionnaire results into NRC categories makes it nearly impossible to confirm the extent to which Verizon's proposed NRC costs are even based on those results. In addition, the Commission is concerned that, out of thousands of responses, Verizon's statisticians only removed two outlying numbers. That fact, combined with Verizon's use of the mean rather than median work times, appears to permit excessive or exceptional work times to have an undue influence on Verizon's NRCs. Since Verizon bases its proposed work times on work done within its current or embedded network, the lack of clear connection between Verizon's survey results and its work times model inputs is especially troubling. While Verizon attempts to adjust its work times to account for forward-looking efficiencies, it is additionally unclear precisely how Verizon develops its supposed TELRIC adjustment factor. Verizon's own NRC panel indicates that the TELRIC factor's function is only to adjust for mechanization and automation.

Given that Verizon failed to comply with the Commission Order in Case No. 8842, which highlighted concerns with Verizon's survey questionnaire methodology, and the numerous concerns cited above regarding embedded/TELRIC adjustments, the Commission cannot accept Verizon's NRC work times as proposed. To do so would permit Verizon to base its non-recurring costs on a network that is partially embedded and on numbers -- survey questionnaire results and their adjustments, and a TELRIC adjustment factor -- that are virtually unverifiable. Instead, the Commission adopts

AT&T/WorldCom's proposal that NRCs be based on median rather than mean or average work times. The median is a stronger measure of central tendency than the mean, which can be strongly affected by a single number that is either too low or too high. Use of median work times will partially correct for the broad variations in work times noted in Verizon's survey questionnaires, and will also partially adjust for any outlying numbers that Verizon's statisticians do not eliminate.

The Commission acknowledges that use of median work times in Verizon's NRC calculations can yield some non-recurring costs that are higher than those Verizon currently proposes. The Commission's goal is not to reduce or to increase Verizon's NRCs to any particular level. Rather, the Commission's purpose in choosing the median rather than the mean is to subject Verizon's survey numbers to a more rigorous analysis than that which Verizon persists in utilizing, which is based on an embedded network and difficult-to-interpret employee survey questionnaire results.[24] Since the adjustments resulting from the decision to employ median rather than mean work times may increase some NRCs and decrease others, Verizon's TELRIC adjustment, which is merely an internal adjustment for mechanization and automation, will continue to be applied to all non-recurring costs.

[24] In those cases in which Verizon's employees reported a range of times (*e.g.*, one to four hours) for a task, the mid-point of any such number shall be used in determining the median work time for that task. Thus, if work times for a specific task are reported as one, two, three, four, and four to six hours, the reported four- to six-hour time shall be deemed to be five hours, and the median of these numbers shall be calculated accordingly.

Verizon, in the future, shall inform the Commission if it concludes that it cannot perform a Commission-ordered task, such as the time-motion study required in Case No. 8842. It shall not fail to perform such a task absent Commission permission.

1. Hotcuts

"Hotcuts" encompass the procedures necessary for Verizon to transfer a retail customer from one CLEC to another. Verizon claims that hotcut procedures are often neither simple nor fast, and that the more complex hotcut procedures are often requested by CLECs in the first place. The need for coordination between or among different companies generates significant one-time costs, according to Verizon, and those costs are essential in order to interconnect competitive carriers. As to cross-connects in either central or field offices, Verizon notes that these are not cost free, because neither Verizon nor any other carrier has 100 percent dedicated inside plant nor 100 percent dedicated outside plant. Use of 100 percent dedicated plant, the Company states, would increase Verizon's need for switches and feeder cable, thus increasing recurring costs.

AT&T/WorldCom objects to the 22 separate tasks in Verizon's hotcut workflow diagram as inefficient. AT&T/WorldCom NRC Panel Reb. T./AT&T Exb 47 at 70. For example, AT&T/WorldCom complains that Verizon charges for duplicative comparisons of manually recorded and OSS records, inexplicably doubles certain travel times, and fails to simultaneously perform verification of information and cross-wire placement. AT&T/WorldCom basically

objects to Verizon's practice of performing all verification activities after the due date for the transfer from Verizon to a CLEC has occurred.

To remedy these and other claimed inefficiencies in Verizon's hotcut procedures, AT&T/WorldCom argues that all steps necessary for a hotcut need not be performed within the same timeframe. Specifically, AT&T/WorldCom proposes that all disconnects of Verizon and placement of new cross-wires can be done prior to the scheduled date for the switch-over. AT&T/WorldCom would thus divide Verizon's hotcut procedure into two independently performed and verified segments, thereby avoiding the need for time-consuming coordination. AT&T/WorldCom also asserts that Verizon has used a similar process for switch conversions for 20 years. *Id.* at 73-76.

No other parties commented on hotcuts.

The Commission is not persuaded that the modification recommended by AT&T/WorldCom is necessary. Therefore, hotcut rates will be as proposed by Verizon, but as modified by the global decisions instituted by the Commission herein.

C. Field Dispatches and Disconnection Costs

Verizon's general position is that non-recurring UNE costs must be based on the one-time costs an ILEC incurs in performing the tasks necessary to serve its UNE customers. Thus, Verizon claims that assumptions based on its actual experience will yield realistic non-recurring costs. For example, Verizon's

witness Peduto claims that field dispatches occur in connection with only 20 to 40 percent of UNE orders, not all orders as Staff claims. Therefore, the total non-recurring charge for UNEs would be at least 50 percent less than Staff calculates. Verizon also claims that it can reduce 80 percent of the manual processing that is necessary to connect CLECs to Verizon's network, thereby reducing NRCs as well. Verizon spreads the cost of field installations over all accounts, so that the statistically predicted field installation per every five CLECs that interconnect with Verizon results in each of the five paying 20 percent of the cost of that field installation. Tr. at 494, *et seq.*

Verizon proposes to collect the costs of disconnection from CLECs at the time CLECs pay for connection. Verizon also relies on "the industry norm" as justification for including disconnection costs in connection charges. Verizon proposes "up-front" collection of disconnection costs because in some cases Verizon may be unable to recover disconnection costs from CLECs that enter into bankruptcy. Since Verizon claims that every UNE that is connected is ultimately disconnected, it argues that no cost-causation principles are violated by up-front collection. Additionally, Verizon maintains that employing a 2.5 percent useful life and Verizon's recommended cost of equity ensures that disconnection costs, even when collected initially, are fair.

AT&T/WorldCom strongly disputes Verizon's assertions. AT&T/WorldCom essentially contends that Verizon's Field Installation and Field Dispatch costs "are a good example of how

Verizon has included recurring costs in its non-recurring charges." AT&T/WorldCom NRC Panel Reb. T./AT&T Exb. 47 at 27. Field installations, and the work necessary to create them, "will not be undone when the UNEs are disconnected," AT&T/WorldCom asserts. *Id.* at 28. AT&T/WorldCom discusses such field dispatch tasks as dial tone verification and pair swaps away from defective plant. AT&T/WorldCom fundamentally concludes, however, that these and other activities benefit Verizon's network, are useful to more than one CLEC, and therefore should be included in recurring costs.

Since the length of time between connection and disconnection is uncertain, AT&T/WorldCom claims that recovering disconnection costs up-front allows Verizon to recover costs before it incurs them. This violates normal cost causation principles and gives Verizon the "time value" or interest from disconnection revenue well before the Company would ordinarily obtain such benefits. Further, AT&T/WorldCom points out that not all service terminations result in disconnection. Thus, the reimbursement of disconnection costs up-front could result in unjust enrichment of Verizon. Murray Dir. T./AT&T Exb. 25 at 33.

While AT&T/WorldCom raises important issues, the Commission declines to make any additional changes to field dispatch. As to field dispatch, AT&T/WorldCom's concerns are addressed by the change to the median, from the average, on the work-time issue. Further, the Commission retains collection of disconnection costs at the time of connection. Verizon is correct that in some cases it would not recover disconnection costs unless

it did so initially. It is difficult to determine what percentage of the time such non-recovery would occur, and therefore difficult to determine the percentage of uncollectible disconnection costs that should be included in connection charges. Also, issues of fairness arise for customers who have already paid disconnection costs.

D. Labor Rates

Labor rates are prime contributors to non-recurring costs, as many non-recurring activities require involvement by Verizon's employees. While Verizon states that it has relied on Maryland-specific rates when appropriate, both AT&T/WorldCom and Staff argue that Verizon's use of labor rates specific to Maryland is too limited. Thus, Staff claims that, as a result of having too little Maryland data, it had difficulty confirming that Verizon's NRCM accurately reflected true Maryland costs.

Verizon has proposed labor rates for many individual functions, ranging from activities performed at the Regional CLEC Coordinating Center and the Mechanized Loop Administration Center, through field installation and software provisioning procedures, product line management, and service delivery. Of the many labor rates, only about half are based solely on Maryland conditions, one is based on a weighted average of New York, Massachusetts, and Maryland costs, six were developed for the Verizon Services Corporation (“VSC”) (formerly the Network Services (“NSI”) organization), and the remainder are based on operations performed

in Virginia, Pennsylvania and Massachusetts. Since no Regional CLEC Coordination and Maintenance Centers appear to be located in Maryland, rates for work performed at Coordination and Maintenance Centers are developed by use of a weighted average of labor rates in the states covered by the regional center.

The Commission would prefer that all Verizon's NRC labor rates be solely Maryland-based since Maryland tends to have lower labor rates than much of the Verizon footprint based on data from the Bureau of Labor Statistics. However, given the current structure of Verizon's organizations, this does not appear feasible. Since the majority of Verizon's labor rates for non-recurring costs are Maryland-based, and because it is not clear how Maryland-based rates could be accurately derived for activities performed outside Maryland, the Commission hereby leaves Verizon's proposed non-recurring labor rates unchanged.

E. Line Sharing

In 1999, the FCC amended its unbundling rules to require ILECs to unbundle access to the high frequency portion of the local loop, which is the high-frequency range above the voice-band range on a copper loop facility.[25] Access to the high frequency portion of the loop enables a requesting CLEC to provide broadband xDSL services to an end-user whose voice service is provided by another

[25] *In the Matters of Deployment of Wireline Services Offering Advanced Telecommunications Capability and Implementation of the Local Competition Provisions of the Telecommunications Act of 1996,* Third Report and Order in CC Docket No. 98-147 and Fourth Report and Order in CC Docket No. 96-98, 14 FCC Rcd 20912 (1999).

carrier. Currently, the issue of line sharing is undergoing review at the national level.

On May 24, 2002, following the close of the record in this proceeding, the U.S. Court of Appeals for the District of Columbia Circuit vacated and remanded the FCC's line sharing order to the FCC for further consideration.[26] On September 4, 2002, the Court of Appeals denied petitions for rehearing filed by the various parties.[27] The FCC is expected to resolve the issue of line sharing in its soon to be concluded *Triennial UNE Review.* Until the FCC completes its Triennial UNE Review, or the Commission determines otherwise, the Commission considers the status quo in effect (i.e., Verizon remains obligated to provide existing UNEs and interconnection at rates determined herein).

The parties to this proceeding have proposed rates for elements related to line sharing. The Commission initially considered line sharing issues in Case No. 8842, the Rhythms/Covad/Verizon Arbitration. Case No. 8842 was divided into two phases. Phase I established non-price terms and conditions and Phase II set interim rates for the discrete elements of the Line Sharing UNE. The Commission's decision to make the rates in Case No. 8842, Phase II, interim was primarily based upon inadequate and insufficient cost information provided by the parties thereto. The Commission indicated that final line sharing rates would be

[26] U.S. Telecom Assoc. v. FCC, 290 F.3d 415 (D.C. Cir. 2002), *petition for rehearing denied Sept. 4, 2002,* cert denied*, WorldCom v. U.S. Telecom Assoc., 123 S.Ct*. 1571 (2003).

[27] See USTA v. FCC, Order, Nos. 00-1012 and 00-1015 (D.C. Cir. 2002).

considered and determined in Case No. 8879. To that end, the Commission provided specific guidance concerning the type of cost information necessary for it to make a final rate determination, including a requirement that a time and motion study be provided with respect to splitter installation costs. Verizon is the only party to have "modeled" rates for line sharing. The other parties, consisting of AT&T, WorldCom, Covad, and NetworkPlus (hereinafter collectively referred to as "AT&T/WorldCom"), and Staff proposed recommended rates based upon a restatement of the Verizon model. The Commission will address each of the line sharing rates below.

1. Splitter Installation, Maintenance, Administrative and Support Charges

As discussed above, line sharing permits a CLEC to provide broadband xDSL service over the same loop that Verizon uses to provide retail voice service. Line splitting refers to a similar arrangement that occurs between two CLECs, one providing the voice service, the other the broadband service.[28]

In order for the line sharing/splitting arrangement to function, voice and data must be separated and delivered to the appropriate carrier. This separation is accomplished through the use of a splitter. The splitter is installed for the use of the CLEC requesting the line sharing arrangement. The parties

[28] All references to "line sharing" shall include "line splitting."

essentially agree that there are currently two splitter installation configurations, Option A and Option C.[29]

Under Option A, the CLEC purchases and installs the splitter in its collocation cage. Under Option C, the CLEC purchases the splitter and then transfers the splitter to Verizon, which then installs the splitter in its own space.[30] Rates pertaining to splitter installation, the splitter equipment support, and administrative and support charges have been addressed, as follows, by the various parties to this proceeding. The other parties critique Verizon's cost model, and in some instances, restated the rates based upon Verizon's model. The splitter installation rate is non-recurring in nature, and is one of the few Verizon NRC rates developed outside of Verizon's NRCM. The remaining splitter related charges are recurring. However, since splitters are integral to line sharing, they are being discussed in this section.

a. Verizon

With respect to Option C, Verizon proposes a non-recurring splitter installation charge of $1,480.81. Verizon indicates that it attempted to do a time and motion study, as directed by the Commission in Case No. 8842, Phase II. However, Verizon states that it was unable to do so in the time period spanning the Commission's Order in Case No. 8842 and the date it

[29] AT&T/WorldCom indicated that other potential line sharing/splitting configurations were being discussed in a New York DSL collaborative, but throughout this proceeding did not identify any. CLEC Panel Reb. at 106.

[30] *See*, Verizon Exb. 2 and Verizon Exb. 10.

was required to file cost studies in this case. According to Verizon witness White,

> We attempted to do a time and motion study to do line sharing splitter installations. . . . We put the request in, I got a consultant lined up, and in May we got no applications. June, no applications, July, we have not gotten a single scenario C application in the last seven months.

Tr. at 607. Therefore, Verizon developed its splitter installation costs using the same methodology as that used in Case No. 8842. Verizon begins with the actual purchase cost of a SIECOR Relay Rack Mounted Splitter and then adds the cost of the line circuit cards, equivalent to a 96-line capacity. According to Verizon, this material cost is then multiplied by an EF&I factor developed by Verizon based upon cost for the Digital Circuit Equipment (Subscriber Pair Gain) equipment account. The resulting rate is then "loaded" by the application of the Common Overhead and Gross Revenue Loading factors.

Additionally, Verizon proposes two recurring administrative and support charges. In the Option C scenario, Verizon argues that it is responsible for the network maintenance, administration and other support of the splitter once it is installed. Accordingly, Verizon creates a recurring rate, in the amount of $38.88, designed to recover the costs of these activities. Verizon develops the recurring administrative and support rate by applying the EF&I factor methodology to the overall

installed investment and then annualizing the expense through the application of its ACFs.

With respect to Option A, Verizon argues that it is still responsible for the network administration and other support for this equipment, even though it is installed and maintained by the CLEC. Therefore, Verizon proposes a $28.69 administrative and support charge for Option A. This rate is developed in the same fashion as the corresponding rate for Option C.

Finally, Verizon also proposes a recurring Splitter Equipment Support Charge of $3.92. According to Verizon, this represents the "in-place cost of the relay rack that a splitter is mounted on in [Verizon's] space including a recognition of an allocation of land and building costs." Verizon Recurring Panel Dir. T. at Exb. R-2 at 4/Verizon Exb. 10. In essence, this rate equates to rent on the space the splitter occupies in Verizon's central office and the space actually occupied on the rack. The rate is the sum of the Equipment Bay Cost and the Building Space Rate. The Building Space Rate is $1.98 and is the current, tariffed rate for central office space, as adjusted to reflect the fact that up to 14 splitters can be housed on one rack. The remaining component of the Splitter Equipment Support charge, $1.94, is intended to recover the cost of space on the rack itself and is based on the application of the ACF factors: Network, Wholesale Marketing and Other Support.

b. AT&T/WorldCom

AT&T/WorldCom does not propose separate NRC rates for line sharing. *See,* Tr. at 1407. Instead, AT&T/WorldCom reviews and restates Verizon's proposed rates.[31]

As an initial matter, AT&T/WorldCom notes that Verizon does not "propose to purchase and provide actual splitters for competitors under either of its options." AT&T/WorldCom NRC Panel Reb. T./AT&T Exb. 47 at 127. AT&T/WorldCom further indicates that Verizon fails to propose prices for line sharing arrangements or stand-alone unbundled DSL-capable loops over fiber-fed loops. *Id.* at 107. To address this failure, AT&T/WorldCom recommends that the Commission re-affirm the position it took with respect to this issue in Case No. 8842. Specifically, AT&T/WorldCom recommends that neither Verizon and nor any of its affiliates be permitted to provide DSL-based services over fiber facilities in Maryland until rates, terms, and conditions for a service offering to CLECs have been established.

AT&T/WorldCom also opines that Verizon, by not providing a time and motion study for this element, has failed to comply with the Commission's ruling in Case No. 8842. *Id*. at 108. Arguing that the EF&I factor utilized by Verizon is not reasonably related to line sharing, AT&T/WorldCom concludes that Verizon's splitter costs are inflated. AT&T/WorldCom states that the EF&I factor used

[31] AT&T/WorldCom indicates that Verizon did not include a separate proposal for line splitting, but acknowledges that the costs should not be any different from those proposed for line sharing. AT&T/WorldCom NRC Reb. T. at 106.

was not developed to identify an "efficient, forward-looking investment related to line-sharing activities...." *Id.* at 121. Further, AT&T/WorldCom argues that most of the work encompassed by the "engineering" and "furnish" portions of the factor has already been accomplished by the time Verizon has to perform the installation. *Id*. at 137. Accordingly, AT&T/WorldCom states that the remaining "installation" portion of the factor simply refers to the incorporation of the item in its final design. *Id.* AT&T/WorldCom recommends that the Commission reject Verizon's factor approach and develop a NRC splitter installation charge designed to recover the cost for the installation of line cards, estimating approximately 30 minutes of labor.

With respect to Verizon's Administrative and Support charge, AT&T/WorldCom argues that such a charge is inapplicable to an Option A line sharing configuration. In addition to identifying issues related to the use of the EF&I factor, AT&T/WorldCom also notes that "Verizon has provided no support for its assertion that a competitor's decision to collocate a splitter causes Verizon to incur any of these types of cost" intended to be recovered through the allocation of the ACFs. *Id*. at 129. Further, AT&T/WorldCom points out that Verizon does not charge a CLEC an administrative fee for other equipment that the CLEC chooses to place in its collocation cage. AT&T/WorldCom recommends that, as it did in Case No. 8842, Phase II, the Commission again reject Verizon's proposal to recover costs based on the equipment that a competitor opts to place in its collocation space. AT&T/WorldCom concludes:

> Verizon has presented the Commission with the same justification (or lack of justification) for the "Admin[istrative and] Support" charges as it furnished in Case 8842. Verizon has done nothing to alleviate the Commission's concerns on this element, nor has Verizon produced any additional information establishing the existence of the supposed administrative and support costs it seeks to recover or ensuring that they do not constitute double-recovery with other elements (such as collocation). In short, Verizon has not given the Commission anything *to* reconsider.

AT&T/WorldCom NRC Panel Reb. T./AT&T Exb. 47 at 132.

With respect to Option C, AT&T/WorldCom argues that the Administrative and Support charge should be lower than the charge Verizon proposes. AT&T/WorldCom again criticizes Verizon's use of an EF&I factor not specifically developed for line sharing, and argues that Verizon fails to show that it would incur any Administrative and Support costs that are not already recovered through other elements. AT&T/WorldCom proposes that a recurring maintenance charge for Option C splitters be set at $3.72 per month per 96-line splitter.

c. Staff

Staff witness Cross addresses the majority of the issues relating to line sharing. Staff's comments are made with respect to Verizon's Compliance Recurring Cost Models which were developed using past Commission ordered inputs, as opposed to its Standard Cost Models which uses Verizon's preferred inputs. Staff is very critical of the fact that Verizon's Compliance Cost Models did not

include all previously ordered Commission inputs, particularly in light of Verizon's request for a delay in the procedural schedule of this case so that it might comply with the Commission's directives in Case No 8842. Cross Reb. T./Staff Exb. 41 at 7-8. Additionally, Staff specifically criticizes Verizon's failure to perform a time and motion study as requested by the Commission in Case No. 8842. *Id.* at 9-11. According to Staff, Verizon also did not provide a splitter-specific study that supports the level of the EF&I factor used in its cost model. *Id.* Absent the above noted information, Staff recommends that the Commission make the interim rates it developed in Case No. 8842 permanent with respect to all line sharing related rates set in Case No. 8842, with the exception of the rates proposed by Verizon for Add Electronics, Expedite Add Electronics and the Wideband Testing System.

d. Commission Decision

The Commission is disappointed with Verizon's failure to comply with the directives given in Case No. 8842. As Staff notes, Verizon itself requested a change to the procedural schedule in this proceeding, specifically to address the requirements of Case No. 8842, but failed to do so. Increasing the number of opinion witnesses supporting the factor methodology and choice does not cure the concerns that the Commission expressed in Case No. 8842 regarding the appropriateness of the EF&I factor used by Verizon, the same factor that Verizon again uses in this proceeding. A time and motion study or a forward-looking factor developed specifically

for line sharing would have provided direct evidence of the appropriate rate for installation of a splitter.

AT&T/WorldCom argues that the Commission should reject the factor approach entirely and develop a splitter installation cost based upon AT&T/WorldCom's estimate of installation. The Commission notes, however, that AT&T/WorldCom's approach addresses only the installation of the line cards itself and not the attendant relay rack. Further, the time proposed by AT&T/WorldCom itself lacks support. Staff recommends that the Commission adopt the rate it set in Case No. 8842, Phase II for splitter installation in this proceeding. The Commission is persuaded by this argument. The Commission determines that, due to Verizon's failure to show that the previously disapproved subscriber pair gain EF&I factor is appropriate for application to line sharing, the imputed EF&I factor developed by the Commission in Case No. 8842 is a more reasonable approach and shall be utilized herein. Therefore, the Commission adopts Verizon's standard cost model, subject to the modifications made in the recurring section of this Order, and incorporates the Commission's imputed EF&I from Case No. 8842. The resulting splitter installation rate is $897.92, inclusive of Common Overhead and the Gross Revenue Loading factor.

As for the Administrative and Support charges, the Commission agrees with the positions advanced by AT&T/WorldCom and Staff –- namely that the Administrative and Support charge is not appropriate in an Option A line sharing arrangement. In this type of an arrangement, Verizon has completed its activities after the

physical modifications and connections are made to the CLEC's cage. Verizon fails to show that there are any network-related or other support functions that it may have to perform or for which it has not already received compensation. As in Case No. 8842, the Commission is not persuaded by Verizon's arguments that there exists a causal relationship between a CLEC placing equipment in its collocation space and Verizon's proposed Administrative and Support costs. Therefore, the Commission affirms its decision in Case No. 8842, Phase II, and finds that in the case of Option A, the splitter equipment is collocated within the CLEC collocation arrangement. In the Option A scenario, the ordering CLEC has already provided Verizon with an additional Application Fee and an Engineering/Implementation Fee in accordance with Verizon's collocation tariff. The Commission reaffirms that to the extent Verizon incurs costs related to the product design of a collocated splitter, it has already recovered those costs through the Engineering/Implementation Fee that is imposed on the collocating CLEC. Verizon has not established that it would incur additional product design costs beyond those costs recovered through the collocation engineering augmentation fee. Thus the Commission finds no additional recovery is appropriate since any additional recovery of these costs would equate to double recovery. [32]

Conversely, the Commission is persuaded that an Administrative and Support monthly recurring charge is appropriate

[32] Order No. 76852 at 27, Case No. 8842, Phase II, 92 Md. PSC at 132 (2001).

for an Option C line sharing arrangement. In this particular scenario, the equipment is placed in Verizon's central office space, and Verizon's responsibility for that equipment does not end once installation is complete. However, this rate is modeled using Verizon's EF&I methodology, based upon the use of factors that the Commission has previously rejected or modified in either Case No. 8842, or this proceeding. Therefore, as with the other splitter related charges, the Commission determines that the Option C Administrative and Support charge should be developed based upon Verizon's Standard Cost Model using the Commission's imputed EF&I factor as detailed above, and the Commission ordered modifications to the ACF made elsewhere in this Order. The Commission expects that the resulting rate will equal $21.57.

Finally, with respect to the Splitter Equipment Support charge applicable in the Option C scenario, the Commission has reviewed the parties' arguments. The Commission is not persuaded that the policy decisions it made in Case No. 8842 pertaining to this issue should be changed. There is nothing in the record in this proceeding to convince the Commission otherwise. Therefore, the Commission reaffirms its adoption of Verizon's proposed rate for Splitter Equipment Support, modified to reflect the Commission decisions herein with respect to the factors utilized and the ACF.

The Building Space charge that is contained within the Splitter Equipment Support rate is based on the current, tariffed rate for central office space. This rate is then adjusted to reflect the fact that up to 14 splitters can be housed on the rack.

The remaining component of the Splitter Equipment Support charge is intended to recover the cost of the rack itself, which can be utilized by fourteen arrangements. As the Commission indicated above, the factors used by Verizon shall be modified to comply with the Commission's decisions herein. The resulting rate for the Equipment Bay after the adjustments noted above is $1.38. The tariffed rate for the building space remains at $1.98. Thus, the total rate for the Splitter Equipment Support is $3.36.

2. Line Sharing OSS

Verizon proposes a Line Sharing OSS recurring, per line, charge. This charge is intended to recover Verizon's one-time software expenditures and the on-going maintenance costs of developing the OSS software for line sharing and line splitting. According to Verizon, the rate will only be applied to each line sharing arrangement ordered by a CLEC.

a. Verizon

Verizon indicates that its line sharing OSS cost study, used to develop its Line Sharing OSS costs, consists of three categories of modified OSS: 1) Telcordia OSS capitalized expenditures shared between line sharing and line splitting OSS costs; 2) Telcordia OSS capitalized expenditures shared by line sharing, line splitting and subloop unbundling costs;[33] and 3) Verizon internal ordering and billing shared by line sharing and

[33] Verizon indicated that the subloop-related software expenses were removed prior to developing the line sharing OSS.

line splitting and proportioned 60 percent capital and 40 percent expense. Verizon NRC Panel Surreb. T./Verizon Exb. 15 at 93.

Verizon proposes a five-year cost recovery period for its Line Sharing OSS based upon the expected life of the software utilized. The capitalized costs are adjusted by the capital portion of the ACF based upon the assumption of a five-year asset life. Additionally, Verizon applies a fifteen percent factor to the capitalized expenditures to estimate the annual maintenance costs for the OSS. The adjusted capitalized costs are added to the maintenance costs of the total annual cost, which is then adjusted by Common Overhead and Gross Revenue Loading. Verizon proposes a rate of $0.84 per line, per month based upon its standard recurring model.

b. AT&T/WorldCom

AT&T/WorldCom argues that Verizon has not provided enough evidence to evaluate the proposed line sharing OSS rate, including the scope of the development and the choice of demand projections. AT&T/WorldCom also criticizes Verizon's inclusion of a fifteen percent markup for annual ongoing software maintenance, which AT&T/WorldCom argues is already recovered through its recurring cost factors. Additionally, AT&T/WorldCom argues that Verizon's choice of a five-year recovery period, instead of the ten-year period used for access to OSS costs is not supported. While recognizing that the FCC has provided for line sharing OSS cost recovery, AT&T/WorldCom opines that Verizon fails to provide evidentiary support necessary for interested parties or the

Commission to determine whether the OSS costs are appropriate. *See*, AT&T/WorldCom NRC Panel Reb. T./AT&T Exb. 47 at 111, *see also*, Starpower/Covad In. Br. at 24-25. For these reasons, AT&T/WorldCom initially recommends that the Commission reject Verizon's proposed Line Sharing OSS. AT&T/WorldCom concludes that, should the Commission adopt a rate for the line sharing OSS based upon Verizon's study, then the Commission should direct Verizon to remove its software maintenance cost and increase the recovery period to ten years.

c. Commission Decision

The FCC's *Line Sharing Order*,[34] provides that ILECs may recover costs for modifications to OSS specific to line sharing. In Case No. 8842, the Commission indicated that costs associated with the modification of Verizon's OSS-related databases are to be recovered through a line sharing OSS charge. The Commission is cognizant of the arguments presented by AT&T/WorldCom with respect to this issue. Verizon provides the development costs involved in calculating its line sharing OSS. However, the Commission finds that Verizon has not supported its inclusion of a maintenance expense calculated simply as a percentage of development costs. Verizon indicates that the appropriateness of its maintenance

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[34] *In re Deployment of Wireline Services Offering Advanced Telecommunications Capability, CC Docket No. 98-147 and In re Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, CC Docket No. 96-98*, Third Report and Order in CC Docket No. 98-147 and Fourth Report and Order in Docket No. 96-98, 14 F.C.C.R. 20912 (1999), vacated and remanded by *U.S. Telecom Assoc. v. FCC*, 290 F.3d 415 (D.C. Cir. 2002). (*Line Sharing Order.*)

expense was verified by five independent industry sources. However, for a company that has been maintaining OSS for its own use, as well as for the use of CLECs, since 1996, the Commission concludes that Verizon should have presented real world cost information regarding these charges. Throughout this proceeding Verizon liberally includes its costs based on its experience as a benchmark for inputs, predictions, etc., but fails to do so here. Based upon the record developed in this proceeding, the Commission is not persuaded that 15 percent of the development cost is a reasonable factor. However, neither is the Commission convinced that all CLECs, regardless of their use of line sharing OSS, should share in providing Verizon recovery for its line sharing OSS maintenance. Rather, the Commission adopts the approach it used earlier with the Access to OSS charge, and finds that the maintenance expense should be calculated based upon the actual OSS monthly recovery charge. Therefore, applying this modification, along with the other recurring modifications, made herein, the Commission determines that Verizon's line sharing OSS rate, to be applied over a five-year period, shall be $0.55 per line, per month, inclusive of Common Overhead and Gross Revenue Loading.

3. Loop Qualification

> Loop qualification is the process of identifying the characteristics of a given loop and determining the suitability of that loop for provisioning DSL-based services, such as loop length and the presence and location of potential DSL-inhibiting network components such as load coils, excessive bridged taps and repeaters). The characteristics of a given

> loop determine whether the loop is usable at all for providing any type of DSL-based service, the modifications (if any) needed to "condition" the loop to provide DSL-based service and the type/speed of DSL-based service that may be offered over that loop, with or without "conditioning."

Murray Dir. T./AT&T Exb. 25 at 34. Verizon has proposed the following loop qualification elements: (1) Mechanized Loop Qualification -- a recurring charge that permits the CLECs access to Verizon's automated loop qualification database; (2) Manual Loop Qualification – a non-recurring charge which applies when a CLEC requests that Verizon manually qualify a loop; and (3) an Engineering Query – a non-recurring charge which permits a CLEC to obtain more specific loop make-up information. Based upon its Standard Recurring and Non-Recurring Models, Verizon proposes the following respective rates: Mechanized Loop Qualification -- $0.17 per line, per month; Manual Loop Qualification -- $120.46 per use; and Engineering Query -- $157.93 per request. Verizon indicates that the Mechanized Loop Qualification tells the CLEC if the loop qualifies for line sharing. In case the answer is negative, a CLEC may then request a Manual Loop Qualification to find out why the loop does not qualify. Further, if a CLEC offering an xDSL or related service wants additional information, such as cable gauges and the location of load coils, the CLEC may request this information through the Engineering Query process.

a. Verizon

Verizon indicates that its loop qualification database is designed to inform a CLEC whether a specific line qualifies for line sharing or not. Based upon Verizon's testimony, it appears that the loop qualification database for which it seeks the Mechanized Loop Qualification charge is not the same as its Loop Facility Assignment Control System ("LFACS") database. Verizon states that "[a] requesting CLEC also can request and receive certain qualification information contained in the LFACS electronically (no costs are provided in this study in connection with that database)." Verizon NRC Panel Reb. T./Verizon Exb. 14 at 45.

According to Verizon, the database, while originally created for its own retail xDSL offerings, has been updated for CLEC customers to provide requested additional information. The development costs of the database were divided by total xDSL lines, those served by Verizon's data affiliate and those served by CLECs. The cost that makes up the proposed rate consists of four parts: (1) Test Readiness/Execution, (2) Test Analysis, (3) Database Updates, and (4) Capital and Expense. The Capital and Expense items include costs incurred for the addition of certain[35] MLT ports, and the expansion of the MLQ database, the enhancements to the re-qualification process, and the reasons for lines not qualifying, and the updates to the LiveWire LFACS process. For the

[35] Namely, those central offices that were added to the original xDSL deployment schedule.

first three parts, the study takes an estimate of the time per line to perform a task and multiplies it by the appropriate labor rate to identify a monthly per-line cost. For the fourth task, Verizon identifies monthly per line costs associated with the Capital and Expense needed to add test central office test ports and effect various process changes and enhancements. As Verizon states, the total Mechanized Loop Qualification cost is simply the sum of these four components. *See*, Verizon Recurring Panel Dir. T., Exb. S/Verizon Exb. 10.

Verizon argues that a per-query charge for MLQ is not possible to implement and would leave a major part of Verizon's up-front investment stranded. According to Verizon, it cannot automatically track how many times a CLEC uses the loop qualification database, as the CLECs have requested and received unlimited access to the database.[36]

Verizon claims that it will not impose the Manual Loop Qualification charge on CLECs for loops that are not included in the database, which Verizon claims will only occur rarely. Instead, Verizon states that it will manually review its records and give the CLEC the same information the database would have provided, at the same MLQ recurring rate that Verizon proposes to apply to all xDSL-compatible loops.

[36] Verizon indicates that it has permitted CLECs to order extracts of the entire loop qualification database, such that CLECs can access information without needing to access Verizon's system.

b. AT&T/WorldCom

AT&T/WorldCom recommends that the Commission reject Verizon's proposed rates for loop qualification. AT&T/WorldCom argues that CLECs should not be required to "fund" the development of a system designed for Verizon's retail business. AT&T/WorldCom opines that, even assuming that Verizon's line sharing databases were developed for competition, the recovery of the attendant cost should be spread across all CLECs and collected through an OSS recurring charge. AT&T/WorldCom NRC Panel Reb. T./AT&T Exb. 47 at 164-5. Moreover, AT&T/WorldCom states that the loop qualification charges, which it equates to the costs to update the database, should not be included in a forward-looking cost model, as Verizon "should have been entering this information routinely into LFACS. If Verizon had maintained its LFACS records in a complete manner, it would not be necessary for Verizon to perform the update activities at the time a new entrant ordered a DSL-capable loop." *Id.*at 166.

AT&T/WorldCom argues that the Commission should reaffirm its decision in Case No. 8842, and require Verizon to provide CLECs with equal access to Verizon's line-sharing databases by directing Verizon to provide read-only access to those databases through an electronic interface. Furthermore, AT&T/WorldCom criticizes Verizon's model methodology with respect to these costs. Overall, AT&T/WorldCom indicates that Verizon has provided no basis for the Commission to depart from its ruling in Case No. 8842.

c. Staff

Staff's recommendation with respect to these charges is that the Commission re-affirm its position in Case No. 8842. Staff argues that Verizon has provided no reasoning or rationale for the Commission to do otherwise. Further, Staff notes that Verizon has ignored the Commission's directives in Case No. 8842, including the cost model requirements and the directive to make a compliance filing in the instant proceeding.

d. Commission Decision

In Case No. 8842, the Commission determined that, in a forward-looking network, a CLEC should be provided the following information via read-only electronic interface with Verizon's OSS: total loop length (including bridge taps); presence and location of load coils; presence and location of Digital Loop Carrier; cable gauge; and qualifications for ADSL/HDSL services.[37] Further, the Commission also found in Case No. 8842, that Verizon's line sharing databases are a form of OSS. Based upon the record in this case, Verizon claims to have created a "Line Sharing Database" that is distinct from LFACS, one of the databases considered by the Commission in Case No. 8842. Here, Verizon indicates that CLECs can have access to the information in the LFACS at no cost, but will still have to pay a recurring charge for MLQ through this other Line Sharing Database.

[37] Order No. 76852 at 31.

In Case No. 8842, the Commission made a policy determination that Verizon has been reimbursed to maintain an up-to-date database. Therefore, both now and in a forward-looking environment LFACS should be completely populated, and contain the information detailed above. Since the Commission finds LFACS to be completely populated in a forward-looking environment, the Commission continues to find that Verizon should not recover any additional costs on a recurring basis for mechanized, manual, or engineering query. However, the Commission finds that an NRC for MLQ is appropriate. It now appears that Verizon is bypassing the Commission's previous findings in Case No. 8842 by creating a new charge for using the Line Sharing Database. Verizon has provided no persuasive reasoning for why the Commission should depart from its previous findings with respect to loop qualification, or support the creation of a new charge. Accordingly, no charge is appropriate for the Manual Loop Qualification and Engineering Query, but the Commission will permit a per use, non-recurring charge for access to the Mechanized Loop Qualification Database of $0.45.

The Commission has previously found that the loop qualification databases used by Verizon are a form of OSS recovery for the cost of their development and are to be recovered there. In this proceeding, Verizon has proposed two OSS recovery mechanisms, one a general Access to OSS charge and the other a specific Line Sharing OSS charge. The Commission is persuaded that the costs of Verizon's loop qualification databases are already

being recovered through these charges. Therefore, the Commission finds that a recurring MLQ charge is inappropriate. Further, Verizon has not persuaded the Commission that electronic access to its databases is not feasible.

The Commission finds, as the Act requires, that an ILEC must provide non-discriminatory access to its OSS. Consequently, Verizon shall provide direct, read-only access through an electronic interface to CLECs in Maryland. The Commission, therefore, reiterates and adopts the findings it made in Case No. 8842. CLECs shall be able to access all information that would be available in a forward-looking environment, i.e.: total loop length (including bridge taps); presence and location of load coils; presence and location of Digital Loop Carrier; cable gauge; and qualifications for ADSL/HDSL. With respect to the MLQ charge, the Commission determines that a "dip" charge is appropriate on a per use basis when a CLEC accesses Verizon's database, and adopts the dip charge set in Case No. 8842, $0.45 per dip.

4. Loop Conditioning

Verizon states that the "FCC has ruled at least three times that ILECs are entitled to recover conditioning costs." Verizon NRC Panel Reb. T./Verizon Exb. 14 at 50. As such, Verizon has proposed several non-recurring conditioning-related rates. Verizon proposes charges of $165.13 and $48.45 for removing one aerial bridge tap and one underground bridge tap, respectively; $395.02 and $119.14 for removing multiple aerial bridge taps and multiple underground bridge taps, respectively; and $664.20 and

$883.48, respectively, for removal of load coils from loops of between 18 and 21 kilofeet and between 21 and 27 kilofeet. In addition, Verizon proposes an Engineering Work Order charge of $644.61 and an Add Electronics charge that would apply to some ISDN/IDSL loops, of $1,124.56 or $1,133.38, on an expedited basis.

a. Verizon

According to Verizon, bridge taps[38] and load coils[39] are used and useful in today's existing network to provision existing POTS service, and this will remain true in the case of a forward-looking network. Verizon argues that it should not have to absorb the cost of modifying its copper network to support a CLEC's provision of xDSL services.

Verizon argues that the Commission's assumptions from Case No. 8842 are inapplicable here. Verizon concludes that in order for line sharing to exist, there has to be an assumption that some degree of copper exists in the network. In response to AT&T/WorldCom argument that Verizon should remove load coils on 25 loops at a time and bridge taps from 50 lines at a time, Verizon counters that the assumptions made by the CLEC Plan are unrealistic and without merit. Verizon removes load coils and bridge taps only

[38] A bridge tap was used to allow the same cable pair (loop) to appear at several different locations. Bridge taps facilitated moving a particular number from one location to another and were also used to provide party lines.

[39] Load coils are used to enhance the quality of voice signals, generally on long loops or loops that have been impaired by the installation of bridge taps.

when a specific xDSL-compatible loop is requested. Verizon argues that generally it does not receive requests that would permit it to remove load coils and bridge taps from multiple lines at the same time. Verizon clarifies that it does not remove bridge taps and load coils as part of routine maintenance. Only as a result of specific end-users request for xDSL are they removed. Verizon asserts that removing multiple load coils randomly could degrade voice services and that removing multiple bridge taps randomly could result in service disconnection and reduced utilization of loop plant. Verizon NRC Panel Reb. T./Verizon Exb. 14 at 54. With respect to the addition of electronics or repeaters to a line, Verizon maintains that this charge is appropriately classed as an NRC. Verizon argues that if the Commission were to find otherwise, Verizon would have no assurance that it would recover its costs. Further, Verizon argues that the CLECs also have the option of buying and installing the repeater itself, thereby avoiding Verizon's rate.

b. AT&T/WorldCom

AT&T/WorldCom argues that Verizon's loop conditioning costs are not forward-looking, since a forward-looking network would not contain load coils or bridge taps. According to AT&T/WorldCom, the use of load coils and bridge taps violates the network engineering guidelines that have been in place for over two decades. AT&T/WorldCom indicates that Verizon's recurring cost models, purportedly of a forward-looking network, do not include the use of bridge taps.

Additionally, AT&T/WorldCom criticizes the rates proposed by Verizon as being excessively high, such that if they were adopted they would "create an almost insurmountable barrier to entry in Maryland for DSL providers seeking to serve customers with either long loops or shorter loops that happen to have excessive bridge taps." AT&T/WorldCom NRC Panel Reb. T./AT&T Exb. 47 at 157. AT&T/WorldCom maintains that Verizon inflated the rates and has included no forward-looking adjustments in its Cost Model. In the alternative, AT&T/WorldCom maintains that, should the Commission permit recovery of loop conditioning costs, such costs should be recovered from all CLECs that benefit from competition via a recurring charge. Also, AT&T/WorldCom argues that the Commission should base any rates it orders for loop conditioning on the assumption that Verizon will deload, or remove load coils, 25 pairs at a time, and will unbridge, or remove bridged taps, 50 pairs at a time.

As for Verizon's proposed charge for the addition of repeaters to a line AT&T/WorldCom argues that those costs are already being recovered through Verizon's recurring charges for digital loops. Further, AT&T/WorldCom maintains that Verizon is assuming inconsistent network configurations in its recurring and non-recurring models. Finally, AT&T/WorldCom states that the cost for the addition of electronics to a line should be a recurring charge, not a non-recurring charge because the equipment itself is reusable.

Finally, AT&T/WorldCom argues that Verizon's NRC charge for Engineering Work Order has increased approximately 800 percent above what was Ordered by the Commission in Case No. 8842. AT&T/WorldCom criticizes the tasks and times identified by Verizon to perform this process. Additionally, AT&T/WorldCom indicates that Verizon failed to apply any kind of forward-looking adjustment to this procedure.

AT&T/WorldCom, arguing that Verizon has submitted essentially the same study in this proceeding as that considered by the Commission in Case No. 8842, recommends that the Commission adopt its position from Case No. 8842 for all line conditioning rates, except Add Electronics and Expedite Add Electronics, which AT&T/WorldCom Recommends the Commission reject.

c. Staff

Staff recommends that the Commission adopt its findings from Case No. 8842 for most of the Loop Conditioning rates. Reiterating its central argument that the Commission notes in the Loop Qualification section, *infra*, Staff argues that Verizon provides no reasoning or rationale as to why the Commission should depart from its decision in Case No. 8842. Staff proposes that the rates for Add Electronics and Expedite Add Electronics be calculated in accordance with the Commission's Case No. 8842 findings.

d. Commission Decision

As an initial matter, the Commission notes that Verizon indicates that it does not intend to charge CLECs for removal of

load coils on loops under 18,000 feet or bridge taps over 6,000 total feet. The Commission agrees with Verizon that there is an assumption of some amount of copper in the loop architecture approved herein by the Commission. However, the record in this proceeding clearly indicates that, in a forward-looking network, there would be no copper loops in excess of 18,000 feet. Based upon the Commission's determinations, *infra,* that Verizon's forward-looking network architecture is a mixture of copper and fiber loops, and that all loops over 18,000 feet are fiber and would not require the removal of load coils, the Commission affirms its finding in Case No. 8842 that there is no charge for load coil removal.

With regard to removal of bridged taps the Commission finds that based upon its ordered forward-looking network architecture, this charge is permissible. However, the Commission is not convinced that the trigger for the imposition of Verizon's charge should be when the bridged tap does not exceed 6,000 feet. As in Case No. 8842, AT&T/WorldCom in this proceeding has introduced evidence, the Carrier Serving Area ("CSA") design standard and the Serving Area Concept ("SAC"), that clearly denotes that in a forward-looking environment, bridged taps should not be present in excess of 2,500 feet. *See,* AT&T/WorldCom NRC Panel Reb. T./AT&T Exb. 47 at 148. Verizon's responses to this argument were not persuasive. The Commission believes that the more than the twenty years that have passed since the guidelines were implemented is sufficient time to allow "a gradual transition of the network as

it is expanded, rebuilt and replaced to meet higher transmission standards....” Verizon NRC Panel Surreb. T./Verizon Exb. 15 at 113. Therefore, the Commission adopts the rates proposed by Verizon in its Standard NRCM Cost Model, subject to the general modifications ordered to that model herein. These rates shall be applicable to the removal of bridged taps 2,500 feet or less.

The Commission is also presented with a type of loop conditioning requiring the addition to a line of electronics, such as repeaters, that would not be present in Verizon’s forward-looking network, but which are necessary to make the line usable for line sharing. In this situation, the Commission finds that it is appropriate that Verizon recover the associated costs. The Commission is not persuaded by AT&T/WorldCom arguments that this cost is being recovered elsewhere, or that this cost should be a recurring cost. Therefore, the Commission adopts Verizon’s proposed rates for Add Electronics and Expedite Add Electronics subject to the general modifications directed to Verizon’s Standard NRCM herein. Additionally, the Commission agrees that these rates should be weighted copper/fiber in the same fashion as the NRC rates for 2 wire loop, 4 wire loop, etc., which weighting should be modified to reflect the Commission’s decisions.

Finally, the Commission addresses the issue of Engineering Work Order. In Case No. 8842, the Commission set this rate equal to the rate contained in the Bell Atlantic –- Maryland,

Inc./Bell Atlantic Network Data, Inc.[40] Interconnection Agreement, $80.89. Verizon is now proposing a rate of $644.61 for this same process. The Commission is concerned that when Verizon's affiliate was separately providing xDSL services Verizon negotiated an extremely low rate. Now that the same affiliate is no longer structurally separate, Verizon increases this rate by approximately 800 percent, without providing justification for the excessive rate increase. The Commission finds that Verizon has failed to provide adequate support and evidence to justify its proposed $644.61 Engineering Work Order rate. Further, the Commission finds that the rate Verizon charged its affiliate, which was adopted by the Commission, remains a reasonable and supportable alternative. Therefore, the Commission finds that the rate Verizon shall charge for an Engineering Work Order is $80.89.

5. Cooperative Testing

Verizon proposes a non-recurring charge of $34.02 for Cooperative Testing. Verizon describes cooperative testing as "a careful, repetitive diagnostic process, with the aim of keeping the customer in service. It is not simply a matter of verifying dial tone. The technician must check the dial tone several times in the course of the provisioning process, and must do so at all cross-connection points...." Verizon NRC Panel Surreb. T./Verizon Exb. 15 at 111. According to AT&T/WorldCom, the concept of cooperative

[40] Verizon is the successor in interest of Bell Atlantic – Maryland, Inc. and Verizon Advanced Data Inc. is the current successor of Bell Atlantic Network Data, Inc.

testing emerged from a New York DSL collaborative to address performance issues that had arisen in New York. AT&T/WorldCom NRC Panel Reb. T./AT&T Exb. 47 at 147. Verizon indicates that it performs and charges for cooperative testing only upon request from a CLEC. Verizon argues that cooperative testing is a separate service that goes above and beyond the normal testing conducted for a line sharing arrangement. Therefore, Verizon claims that, when it performs the special testing for the CLEC, only upon the CLEC's request, then the requesting CLEC should pay for the costs of that special testing. Verizon NRC Panel Surreb. T./Verizon Exb. 15 at 110. Verizon argues that, as cooperative testing is neither a Verizon requirement, nor performed at its behest, it should not have to bear the cost. Verizon urges the Commission to reverse its previous position, from Case No. 8842, that Verizon should bear the costs in connection with cooperative testing.

AT&T/WorldCom recommends that the Commission affirm its decision in Case No. 8842 that each side must pay its own costs. However, AT&T/WorldCom concludes that, if the Commission considers any charges for cooperative testing to be appropriate, it should offset those charges by the costs that competitors will incur for testing services that Verizon has not properly provisioned. Further, AT&T/WorldCom argues that Verizon's Cooperative Testing charge is overstated.

The Commission has considered the arguments presented by the parties to this proceeding. It is an unavoidable conclusion from the evidence presented during this proceeding that cooperative

testing is not necessary to the provisioning process of a line sharing UNE. Rather it is an elective procedure that fulfills the CLECs' own service objectives and need for assurances as a result of performance issues experienced in New York. It is not clear from the record whether these performance issues have also arisen in Maryland since line sharing has been implemented. The Commission recognizes that both parties to the test will receive some level of benefit from the testing, but also recognizes that cooperative testing is not a necessity.

After considering the record in this matter, the Commission determines that Verizon should be able to impose a Cooperative Testing charge when it is requested to engage in the process by a CLEC. However, if Verizon requests that a cooperative test be performed, then the Commission will require Verizon to pay the expenses incurred by the CLEC. The Commission also recognizes that it is Verizon that has the duty and obligation of delivering a functioning high frequency portion of the loop to the ordering CLEC. Therefore, the Commission determines that if the cooperative testing reveals that there is a fault, attributed to Verizon, with the line sharing arrangement, Verizon shall not be entitled to recover the Cooperative Testing charge. The Commission determines that, when applicable, Verizon's Cooperative Testing charge shall be $34.02.

6. Wideband Testing Systems ("WTS")

Verizon has proposed an optional monthly recurring rate of $2.31 per line for testing xDSL capable loops. The Wideband

Testing System ("WTS") charge recovers Verizon's cost incurred when working with the CLECs to test a data service using the Hekimian testing system. Verizon intends the WTS charge to recover the cost of Metallic Test Access Units ("MTAUs"), Wideband Test Heads, and supporting OSS for the Hekimian testing system. Verizon indicates that "[t]he Hekimian wideband testing equipment provide the following information: POTS supervision, central office Noise, Loop Noise, Dial Tone, Loop Wiring, ADSL Signal, and ATU-R Detection." Verizon Recurring Panel Dir. T./Verizon Exb. 2 at 71. Verizon notes that it has made the WTS an optional choice for the CLEC in accordance with the Commission's decision in Case No. 8842.

a. Verizon

In response to criticisms from AT&T/WorldCom, Verizon argues that its WTS charge is appropriate. Verizon explains that while it received a refund from the equipment manufacturer, Alcatel, that refund related to *Layer 2* testing[41], *not* Layer 1.[42] Verizon maintains that it does not charge CLECs for testing of Layer 2 or above, to which the refund would have been applicable.

[41] Layer 2 and above testing involves the communication between the end user's modem and the CLEC's DSLAM and/or ISP provider. CLECs can use many tools that vary by technology and vendor to accomplish Layer 2 testing. Verizon has not included Layer 2 test equipment or costs in its WTS cost study.

[42] Layer 1 of such testing, which is the type that Verizon has implemented for wholesale services, provides the ability to remotely test the physical characteristics of a copper loop facility and to see if "the pair" (the two copper wires making up the loop facility) is good, balanced, and free of metallic defects and impairments such as shorts, grounds and foreign voltages. With respect to xDSL, this testing permits the user to see spectrum characteristics or noise issues from interferors (other high-speed digital services in the same cable) because of unique designs.

Verizon also indicates that, while it will provide the results of the test to the CLEC, it will not permit the CLEC to access the testing equipment.

b. AT&T/WorldCom

AT&T/WorldCom argues that the rates proposed by Verizon are not forward-looking and, in some instances, are intended to resolve issues with Verizon's supplier. AT&T/WorldCom elaborates that Verizon,

> originally ordered DSLAMs with *integrated* metallic test access from Alcatel; but Alcatel failed to deliver the DSLAMs with the integrated metallic test access. Alcatel's failure led Verizon to deploy the separate WTS MTAUs for its retail Infospeed™ offering as a fix. Alcatel has paid Verizon an $11.2 million refund to compensate for its failure to deliver the promised DSLAMs. The Alcatel refund has everything to do with the costs for testing that Verizon proposes to recover from competitors through the mandatory wideband test charge. The MTAU costs that were directly offset by the Alcatel refund are included in Verizon's cost study and used in the development of the price Verizon proposes to charge competitors for the WTS. The charge should, at the least, have those costs removed to account for the Alcatel refund received by Verizon.

AT&T/WorldCom NRC Panel Reb. T./AT&T Exb. 47 at 140. Further, the CLEC's argue that Verizon has not agreed to allow competitors direct access to the test head or direct access to the system and the results of its testing capabilities.

c. Commission Decision

After reviewing this matter, the Commission determines that the WTS charge should be an optional rate based upon Verizon's Standard Recurring Cost Models, subject to the modifications to that model made elsewhere within this decision. The Commission notes that, in this proceeding as opposed to Case No. 8842, the parties did not oppose Verizon's use of a Land and Building factor in its computations. Further, with respect to the Alcatel refund, which was an issue in Case No. 8842, the Commission is not persuaded by the arguments of AT&T/WorldCom that there is a causal relationship between the refund and the rate that Verizon is charging for the WTS. The WTS is an optional test that Verizon can perform upon request by a CLEC. The Commission is not persuaded by AT&T/WorldCom that it has an overwhelming need to directly access Verizon's test equipment. The Commission, in Case No. 8842, required Verizon to provide the CLEC with the test results and data for the whole frequency range. The Commission reaffirms that finding herein.

7. Line Sharing UNE

In this proceeding, Verizon has for the first time introduced a separate non-recurring cost for line sharing. Verizon provides little in the record to support this charge or even explain why a charge is now necessary.

AT&T/WorldCom argues that the line sharing rate is based upon Verizon's attempt to estimate a non-recurring cost for line

sharing arrangements using the two-wire new UNE loop as a proxy. AT&T/WorldCom In. Br. at 94. AT&T/WorldCom recommends that Verizon's attempts be rejected as lacking proper foundation.

The Commission objects to the introduction of a heretofore unheard of rate element absent sufficient justification. The Commission hereby rejects these proposed rates based upon Verizon's failure to adequately justify or support them.

VII. CONCLUSION

The Commission instituted Case No. 8879 to evaluate and establish new recurring and non-recurring rates for unbundled network elements. The Commission has now weighed the evidence and arguments presented by the parties to this proceeding, and reaches conclusions covering the many aspects of UNE provisioning. The rates the Commission develops in Case No. 8879 are final rates, as opposed to the interim rates the Commission reached in Case No. 8842. The Commission stresses that the parties are not authorized to deviate from the decisions in this Order without prior Commission approval.

During its deliberations in Case No. 8879, the Commission asked the parties to perform two alternative runs of Verizon's recurring cost models. All parties received notice of the runs and were invited to participate. Each run consisted of

two or more scenarios of hypothetical cost inputs.[43] The Commission responded to several requests by parties for clarification. Ultimately, Verizon and AT&T/WorldCom submitted completed runs containing agreed-upon, reconciled numbers, including the cost of the loop resulting from each input scenario; their submission was filed in this docket on May 19, 2003.

The Commission notes that the decisions contained in this Order reflect the inputs contained in the Commission's previously issued Scenario A2_R. The Commission expects the results of A2_R to be the rates resulting from this Order. As such, the Commission anticipates the average state-wide loop rate will be $11.26.

The Commission hereby directs Verizon to submit a compliance filing within 30 days of the date of this Order.

IT IS, THEREFORE, this 30th day of June, in the year Two Thousand Three, by the Public Service Commission of Maryland,

ORDERED: (1) That the rates and charges for unbundled network elements adopted in this Order are final rates and charges.

[43] The first alternative run was directed by the Commission on December 20, 2002, and contained four scenarios (F1, F2, F3, F4). The results from this run were filed on February 10, 2003. The second alternative run was directed by the Commission on April 1, 2003, and consisted of two scenarios (A1, A2). The results for this run were filed on April 28, 2003. All six scenario results were reconciled by Verizon and AT&T/WorldCom in a filing made on May 19, 2003. The reconciled results are referred to as F1_R, F2_R, F3_R, F4_R, A1_R and A2_R.

(2) That within 30 days of the date of this Order Verizon shall file with the Commission a compliance "run" for both recurring and nonrecurring cost inputs, as directed in this Order.

(3) That within 30 days of the date of this Order Verizon shall file with the Commission a complete set of tariffs revised in accordance with this Order.

(4) All motions not granted herein are hereby denied.

/s/ Catherine I. Riley

/s/ J. Joseph Curran, III

/s/ Gail C. McDonald

/s/ Harold D. Williams
Commissioners